Curriculum Vitae

Julian Togelius

December 10, 2024

1 Personal information

Name: Julian Togelius
Nationality: Swedish
Date of birth: April 6, 1979
e-mail: julian@togelius.com
Personal web site: http://julian.togelius.com
Blog: http://togelius.blogspot.com
Mobile phone number: +1-917-285-3152
Address (work): Department of Computer Science and Engineering, New York University, Room 613, 370 Jay Street, Brooklyn, NY 11201, United States.
Address (home): 2 Washington Square Village, Apartment 11O, New York, NY 10012, United States.
Languages spoken: Swedish, English and some Italian

2 Education

- BA, Theoretical Philosophy, Lund University, Sweden, June 2002. Bachelor's thesis in philosophy supervised by Nils-Eric Sahlin; substantial coursework in computer science and psychology.
- MSc, Evolutionary and Adaptive Systems, University of Sussex, UK, September 2003. Master's thesis supervised by Ezequiel Di Paolo.
- PhD, Computer Science, University of Essex, UK, September 2007. Supervised by Simon M. Lucas, started in October 2004.

3 Employment history

- Associate Professor, New York University, New York, USA, from January 2015. Directing the Game Innovation Lab, advising PhD students and postdocs, teaching classes and conducting and leading research. Tenured since 2020.
- Associate Professor, IT University of Copenhagen, Copenhagen, Denmark, August 2012–December 2014. Independent and collaborative research, research group leadership, PhD and MSc student supervision and course teaching. The position (Since August 2013 also Head of the Games Masters Program.)
- Assistant Professor, IT University of Copenhagen, Copenhagen, Denmark, August 2009–July 2012. Independent and collaborative research, research leadership, PhD and MSc student supervision and course teaching.

- Researcher, Dalle Molle Institute of Artificial Intelligence (IDSIA), Lugano, Switzerland November 2007–July 2009. Mostly independent and collaborative research, but also co-supervision of MSc and PhD students, and coordinating and lecturing on the Intelligent Systems MSc course.
- Teaching Assistant, Department of Computer Science, University of Essex, UK October 2004–September 2007. Labs, classes and occasionally lectures for a number of courses. Mainly intermediate programming courses, but also e.g. Professional Development for first-year students, and Quantitative Neuroscience for MSc students.
- Founder, Togelius Thought & Technology. Developed and sold a distributed messaging and presence system for web communities.
- Teaching Assistant, Department of Computer Science, Lund University, Sweden 2001- 2002. Labs and classes in Object-oriented Programming, Theory of Computation, and Functional Programming.
- Assistant art director, MAD/Hedetoft Advertising Agency, Malmö, Sweden. Full-time summer 1998, thereafter part-time until late 2000. Tasks included graphical design, interface programming and direct-marketing campaign localization.

4 Awards and other honors

- IEEE Fellow, Class of 2025.
- Best Paper Award at the Foundations of Digital Games Conference 2024, for the paper *DreamCraft: Text-Guided Generation of Functional 3D Environments in Minecraft* (Sam Earle, Filippos Kokkinos, Yuhe Nie, Julian Togelius and Roberta Raileanu).
- IEEE Computational Intelligence Society Outstanding Early Career Award 2020. (One awardee per year in a society of around 7000 members.)
- Best Paper Award at Autonomous Agents and Multiagent Systems (AAMAS) 2019 for the paper *Playing Atari with Six Neurons* (Giuseppe Cuccu, Julian Togelius, Philippe Cudre-Mauroux).
- Best Paper Award at Biometrics: Theory Applications and Systems (BTAS) 2018 for the paper *DeepMasterPrints: Generating MasterPrints for Dictionary Attacks via Latent Variable Evolution* (Philip J Bontrager, Aditi Roy, Julian Togelius, Nasir Memon and Arun Ross).
- Best Paper Award at AudioMostly 2018 for the paper *Evolving in-game mood-expressive music with MetaCompose* (Marco Scirea, Peter Eklund, Julian Togelius and Sebastian Risi).
- Best Paper Award at IEEE Conference on Computational Intelligence and Games (CIG) 2018 for the paper *New and Surprising Ways to be Mean: Adversarial NPCs with Coupled Empowerment Minimisation* (Christian Guckelsberger, Christoph Salge and Julian Togelius).
- Best Paper Award at the Foundations of Digital Games Conference 2018, for the paper *AtDelfi: Automatically Designing Legible, Full Instructions For Games* (Michael Cerny Green, Ahmed Khalifa, Gabriella A.B. Barros, Tiago Machado, Andy Nealen, Julian Togelius).
- Most Influential Paper Award in the IEEE Transactions on Affective Computing for the paper *Experience-driven Procedural Content Generation* (Georgios N. Yannakakis and Julian Togelius). Paper published 2011, award conferred in 2016 based on all publications in the previous five years.
- Best Paper Award in the IEEE Transactions of Computational Intelligence and AI in Games for the paper *Crowd-Sourcing the Aesthetics of Platform Games* (Noor Shaker, Julian Togelius, Georgios N. Yannakakis). Paper published 2012, award conferred in 2016 based on all papers in the journal in the year 2012.

- Best Paper Award at IEEE Conference on Computational Intelligence and Games 2015, for the paper *Towards generating arcade game rules with VGDL* (Thorbj"orn Nielsen, Gabriella Barros, Julian Togelius and Mark Nelson).
- Best Paper Award in the EvoGames track of the EvoApplications conference 2015, for the paper *Procedural Personas as Critics for Dungeon Generation* (Antonios Liapis, Christoffer Holmgard, Georgios N. Yannakakis and Julian Togelius).
- Best Paper Award at IEEE Conference on Computational Intelligence and Games 2014, for the paper *Designer Modeling for Sentient Sketchbook* (Antonios Liapis, Georgios N. Yannakakis and Julian Togelius).
- Best Student Paper Award at AAAI Artificial Intelligence in Digital Interactive Entertainment Conference 2013, for the paper *Towards a Generic Method of Evaluating Game Levels* (Antonios Liapis, Georgios N. Yannakakis and Julian Togelius).
- Best Paper Award at the DETA track, ACM Genetic and Evolutionary Computation Conference 2013, for the paper *Enhancements to Constrained Novelty Search: Two-Population Novelty Search for Generating Game Content* (Antonios Liapis, Georgios N. Yannakakis and Julian Togelius).
- Best Student Paper Award at IEEE Conference on Computational Intelligence and Games 2011, for the paper *Feature Analysis for Modelling Game Content Quality* (Noor Shaker, Georgios N. Yannakakis and Julian Togelius).
- Best Student Paper Award at IEEE Congress on Evolutionary Computation 2005, for the paper *Evolving Controllers for Simulated Car Racing* (Julian Togelius and Simon M. Lucas).
- Three year Graduate Research Studentship from the University of Essex and EPSRC for pursuing research towards a PhD, commencing October 2004.
- 2.0/2.0 (best possible score) at "Högskoleprovet" (Swedish university entrance exam), 1997.

5 Academic community activities

I am involved in the Artificial Intelligence and Games, Evolutionary Computation, and Artificial Intelligence communities at various levels, including conference organization, journal editorship, and reviewing. Current and recent community involvement includes:

- Co-organizing the International Summer School on Artificial Intelligence and Games (with Georgios N. Yannakakis) every year since 2018 (except for 2020). This is a wholly independent series of summer schools featuring talks from myself and Georgios as well as invited industry speakers; between 100 and 200 attendees anually.
- Editor-in-Chief of IEEE Transactions on Games, 2018-2021.
- Associate Editor for IEEE Transactions on Computational Intelligence and AI in Games, 2009–2017.
- Chair of the IEEE CIS Technical Committee on Games 2011-2012; vice-chair of the same committee 2009-2010. Approximately 50 members (mostly tenured faculty) around the world, responsibility for game-related computational intelligence activities within the IEEE.
- IEEE Conference on Computational Intelligence and Games: publicity chair 2009, general co-chair 2010 and 2017, competitions chair 2011 and 2012, program chair 2013, keynote and tutorials chair 2016. Gave tutorials 2008, 2011 and 2014 and have organized several competitions. The CIG conference usually had 100-150 attendees and was one of the two leading academic game AI conferences.

- IEEE Conference on Games: Program Chair 2021 and 2023, Keynotes Chair 2022. This is the successor to the Computational Intelligence and Games conference, and had 250 attendees in 2019.
- IEEE Congress on Evolutionary Computation: Program committee member since 2006, special sessions chair 2011, competitions chair 2021, gave tutorials 2008, 2011 and 2012, organized several competitions and special sessions. CEC is the largest conference within evolutionary computation, with more than 500 attendees annually.
- Foundations of Digital Games (FDG) conference: Program chair 2015, workshops chair 2013 and 2018, and keynotes chair 2017.
- Co-organized three Dagstuhl seminars: Computational and Artificial Intelligence in Games (May 2012), Computational and Artificial Intelligence in Games: Integration (January 2015), and Computational and Artificial Intelligence in Games: Revolutions in Game-playing AI (December 2019). Dagstuhl seminars are among the most prestigious invitation-only events in computer science.
- Chaired the Digital Entertainment and Arts track of the ACM Genetic and Evolutionary Computation Conference 2014, 2016 and 2018.
- Co-chaired the EvoGames event/track within the EvoApps conference 2010, 2011 and 2012.
- Co-founded and co-organized the Procedural Content Generation Workshop at the Foundations of Digital Game Conference 2010, 2011 and 2012. Member of the steering committee of the workshop series since the start.
- Regular member of the program committees for a number of additional conferences within artificial intelligence, evolutionary computation, AI and game studies, including International Joint Conference on Artificial Intelligence (IJCAI), AAAI Conference on AI (AAAI), Parallel Problem Solving from Nature (PPSN), Foundations of Digital Games (FDG), Genetic and Evolutionary Computation Conference (GECCO), Artificial Intelligence and Interactive Digital Entertainment (AIIDE), International Conference on Learning Representations (ICLR), and Neural Information Processing Systems (NeurIPS).
- Area Chair for NeurIPS 2020 and ICLR since 2020, Senior Program Committee member for IJCAI 2020.
- Recurring reviewer for the top journals in the fields I work in, for example Genetic Programming and Evolvable Machines, IEEE Transactions on Evolutionary Computation, Entertainment Computing and IEEE Transactions on Affective Computing. Also occasionally review for Nature.
- Very active in organizing game-based AI Competitions. Initiated and organized the simulated car racing competitions at CIG 2007 and CEC 2007; co-organized the Simulated Car Racing Championship in 2008 and 2009. Initiated and organized the Mario AI Competition in 2009, and the follow-up Mario AI Championship in 2010 and 2011. Initiated and co-organizing the General Video Game Playing Competition, annually since 2014. Co-initiated the Obstacle Tower Competition and the Pommerman Competition, 2019. The software and APIs developed for these competitions have been widely used as benchmarks in Game AI publications.

6 Invited talks

I have been invited to give talks about my research at various universities and research institutes around the world, including Microsoft Research (Cambridge and NYC), University of California at Santa Cruz, University of Southern California, University of Dortmund, Northeastern University and Massachusetts Institute of Technology. The following is a selected list of invited talks and keynotes at conferences and workshops:

- Keynote, AI and Games Symposium, Imperial College, London, 2009. This network collected the majority of researchers working on Game AI and related topics in the UK.
- Invited talk at the TTI/Vanguard "Serious Fun" conference at Four Seasons, Chicago, 2011. This a conference series for high-level leaders in business and governmental organizations, orienting them about advances in technology and up-and-coming research fields.
- Keynote, GameOn conference, University of Lincoln, Lincoln, 2014.
- Keynote, Genetic Programming Theory and Practice, University of Michigan, Ann Arbor, 2015.
- Keynote, International Joint Conference on Computational Intelligence, Lisbon, 2015.
- Workshop keynote, workshop on Evaluation of Artificial General Intelligence at the Conference on Artificial General Intelligence, New York, 2016.
- Workshop keynote, workshop on General-purpose AI, European Conference on Artificial Intelligence (ECAI), The Hague, 2016.
- Invited talk at the Machine Intelligence workshop at the Neural Information Processing Systems conference (NIPS), Barcelona, 2016.
- Keynote, Conference on Evolutionary Multi-criterion Optimization, Muenster, 2017.
- Invited talk, IEEE Congress on Evolutionary Computation, Rio de Janeiro, 2018.
- Keynote, Mexican International Conference on Artificial Intelligence (MICAI), Xalapa, 2019.
- Workshop keynote, Agent Learning in Open-Endedness (ALOE) workshop at ICLR, 2022.
- Workshop keynote, Evolutionary Reinforcement Learning workshop at Gecco, 2022.
- Competition event keynote, Neural MMO Event at NeurIPS, 2023.
- Keynote, Computational Intelligence and Games, SUSTech, Shenzhen, China, 2024.

7 Media relations and popular engagement

Some representative examples of my popularization activities and media presence:

- Multiple articles about my work have appeared New Scientist, including "Cleverness isn't everything for a gaming artificial intelligence" (2016), "AI card game knows how to bend the rules" (2013), "Custom Monopoly boards help visualise social data" (2012), "Online games are a gold mine for design ideas" (2010), "Adaptive games promise high scores for everyone" (2009), "Race is on to evolve the ultimate Mario" (2009) and "Autonomous driving systems aim to drive dirty" (2007).
- Articles about my work in the international mainstream daily press, for example: "Game that develops itself could save industry" (The Guardian, 2009), "Quand c'est l'ordinateur qui joue a Mario" (Le Monde, 2009), "Forskaren vill avdramatisera bilden av artificiell intelligens" (Sydsvenskan, 2015), and "Game do futuro sentira jogador diz pesquisador" (Revisto Galileu / O Globo, 2012).
- Articles about my work in popular science and specialist press, for example "AI tested on 'Super Mario' video game" (MSNBC/Discovery Channel, 2009), "AI, acting and the weird future of open-world games" (Eurogamer, 2015), 'Why AI will make your video games better" (Experience Magazine, 2020), "How generative AI could reinvent what it means to play" (MIT Technology Review, 2024).

- Social media: multiple stories about my research in Slashdot, and several front-page hits on Digg, Reddit and Hacker News. Also, mentions in numerous blogs.
- I have a blog at togelius.blogspot.com, with occasional updates about my research. I also maintain an active Twitter account where I post about my research and others; currently about 12000 followers.
- I occasionally give popular science presentations. For example, in New York, I have been talking at e.g. ACM student events, and at the Consciousness Club.

8 External research funding

I support my lab with a combination of sources, including governmental research funding, direct and indirect industry funding, scholarships from PhD students' home countries, and departmental funding. At NYU, I have so far received the following grants as lead PI:

- "RI: Small: General Intelligence through Algorithm Invention and Selection", NSF award number 1717324, September 1, 2017—August 31, 2020, 427 000 USD. PI Julian Togelius, co-PI Andy Nealen.
- "SaTC: CORE: Small: Dictionary Attacks on Biometrics", NSF award number 1956200, September 1, 2020—August 31, 2023, 483 000 USD. PI Julian Togelius, co-PIs Nasir Memon and Pawel Korus.
- "Scalable Generative AI Benchmarks", GoodAI award, January 1, 2022—December 31, 2022. 63 800 USD, PI Julian Togelius.
- "Out-of-distribution Generalization of Reinforcement Learning Agents in Open-ended Environments", FTX Future Fund, October 2022—October 2024. 100 000 USD, PI Julian Togelius.
- "Context-Adaptive Prediction Systems Using Multi-Agent LLM Architectures", nof1, January 1, 2025—December 31, 2025. 80 000 USD, PI Julian Togelius.

And as co-PI:

- "Cooperative Design Innovation Games (CoDInG)" (contract extension), Honda Research Institute Europe, March 1, 2020 - May 15, 2021. 75 000 USD, PI Andy Nealen, co-PI Julian Togelius.

Before moving to the US, I attracted research funding in Switzerland and Denmark. Most research funding on the European level is given to relatively large consortia, with many contributors to a successful application and project. At IDSIA, I was involved in the writing of a number of successful research grant proposals from both the Swiss National Fund (SNF) and the EU. For these projects, I have had the role of co-investigator, roughly equivalent to co-PI in US terminology. These include:

- The EU FP7 project IM-CLeVeR (FP7-ICT-IP-231722), an ICT STREP (cognition and robotics unit) project in FP7. Circa 6 million euro for the whole consortium.
- The SNF project Theory and Practice of Reinforcement Learning, grant number 200021-113364/1. 1 PhD student and 1 Postdoc for 3 years. (I wrote more than half of this proposal.)
- The EU FP7 project NanoBioTouch (FP7-NMP-228844), an FET STREP project within FP7. About 2 million euro for the whole consortium.

At ITU, I was involved in writing considerable parts of several successful grant proposals from Danish funding agencies as well as the EU. I have been the principal investigator on the following successful grants:

- The FTP (Danish Research Fund for Technology and Production) project "Adaptive Game Content Creation for using Computational Intelligence" (AGameComIn), grant number 274-09-0083. 2.42 Danish krone, from 2009 to 2012.

- The FTP (Danish Research Fund for Technology and Production) project "Playful Games with Active Learning" (PlayGALe), grant number 1337-00172. 2.75 million Danish krone, from 2014 to 2017.

I have also been a co-investigator on the following successful grants:

- The EU FP7 ICT STREP (FP7-ICT-258453) "Serious Games for Teaching Conflict Resolution" (Siren), 2010 – 2013. 2.97 million euro for the whole consortium; currently financing 3 employees at ITU for three years.
- The EU FP7 ICT STREPs C2LEARN (FP7-ICT-318480, 3.1 million euro) and ILearnRW (FP7-ICT-318803, 2.5 million euro), which started in autumn 2012. Both projects concern AI-assisted serious games.
- The two-year project "Games for Health", financed by the Danish Agency for Science, Technology and Innovation, in collaboration with Danish games developers and hospitals and the staff union of the Danish Defence Forces. Financed one research assistant at ITU, 2010 – 2012.

9 PhD students advised

At the IT University of Copenhagen, I advised seven PhD students to completion, three of them as primary advisor. As the Danish system allows for advisors and co-advisors, I indicate for each student whether I was primary or secondary advisor. For each student I also list year of starting and finishing the PhD program, and title of the PhD thesis.

- Afsaneh Doryab (secondary advisor): Context-aware information adaptation in collaborative settings, 2009-2012.
- Tobias Mahlmann (primary advisor): Modelling and Generating Strategy Game Mechanics, 2009-2013.
- Noor Shaker (secondary advisor): Towards Player-Driven Procedural Content Generation, 2009-2013.
- Corrado Grappiolo (primary advisor): Unveiling Collaborative Group Identities in Social Synthetic Environments from Interaction Data, 2010-2014.
- Antonios Liapis (secondary advisor): Mixed-initiative Game Design Automata, 2011-2014.
- Christoffer Holmgard (secondary advisor): Player decision modeling with procedural personas, 2012-2015.
- Marco Scirea (primary advisor): Affective Music Generation and its effect on player experience, 2014-2017.

At Malmö University, I advised the following PhD students to completion:

- Steve Dahlskog (primary advisor): Patterns and procedural content generation in digital games, 2012-2016.
- Alberto Alvarez (secondary advisor): Exploring Game Design through Human-AI Collaboration, 2017-2022.

At New York University, I have advised the following PhD students to graduation:

- Gabriella Barros: Data Games. 2014-2018. (Started at ITU and transferred to NYU.)
- Tiago Machado: Mixed-initiative game design tools. 2015-2019.

- Andre Mendes: Multi-stage learning for selection tasks. 2015-2020.
- Philip Bontrager: Exploring latent space in generative models. 2015-2020.
- Ahmed Khalifa: General video game level generation. 2015-2020.
- Rodrigo Canaan (secondary advisor): Collaborative Design Innovation Games. 2017-2021.
- Michael Green: Tutorial generation in video games. 2016-2022.
- Ruben Rodriguez Torrado: Learning Simulation-based Policies. 2017-2022.
- M Charity: Online Creative Collaborative Content Generation. 2019-2024.

I am currently advising the following PhD students at NYU:

- Sam Earle: Open-ended Learning through Procedural Content Generation. 2020-2025 (expected).
- Catalina Jaramillo (part time student): Data mining the labor market. 2019-2025 (expected).
- Graham Todd: Game Generation through Quality-Diversity and Foundation Models. 2021-2026 (expected).
- Zehua Jiang: Dictionary attacks on Biometrics. 2022-2026 (expected).
- Anubhav Jain (secondary advisor): Fairness and Controllability in Image Generation. 2022-2026 (expected).
- Maria Edwards (part time student): LLMs for Creativity Support. 2022-2026 (expected).
- Matthew Siper: Autoregressive Content Generation with the Path of Destruction. 2022-2026 (expected).
- Jesse Lew (part time student): Augmentation Strategies for Computer Vision. 2021-2026 (expected).
- Tim Merino: TBD. 2023-2027 (expected).
- Yuchen Li: TBD. 2024-2028 (expected).

I am also secondary advisor to the following PhD students at other universities:

- Debosmita Bhaumik: Constrained Mixed-Initiative Content Generation. Primary advisor: Ahmed Khalifa. University of Malta, 2022-2025 (expected).
- Muhammad Umair Nasir: TBD. Primary advisor: Steven James. University of the Witwatersrand, 2022-2026 (expected).

10 Master's and Bachelor's students advised

At the IT University of Copenhagen, I supervised a few dozen master's theses; as most students in the Danish system write a master's thesis, it is common for faculty members to supervise multiple theses every semester. A handful of these theses formed the basis for published papers. While it is less common for students to write bachelor's or master's theses in the American system, I have supervised the following thesis students at NYU:

- Abraham Gellis, bachelor's, 2015
- Wells Santo, master's, 2016

- Samuel Alvernaz, master's, 2016
- Joseph Bieselin, master's, 2017
- Robert Ryszewski, master's, 2017
- Scott Lee, master's, 2017
- Niranjan Ketkar, master's, 2019
- Jason Won, bachelor's, 2019
- Rohan Sukumaran, master's, 2022.

11 Teaching

I have taught full classes as primary instructor at three universities. At the University of Lugano, I taught the following course:

- Intelligent Systems, 7.5 ECTS, fall 2008.

At the IT University of Copenhagen, I taught the following courses:

- Data Mining, 7.5 ECTS, spring 2010-2014.
- Procedural Content Generation in Games, 7.5 ECTS, fall 2010-2012, 2014.
- Modern AI for Games, 15 ECTS, fall 2012, 2013.
- Thesis Preparation, 7.5 ECTS, fall 2014.

At New York University, I have taught the following courses:

- Artificial Intelligence, 3 credits, fall semesters 2015-2021. Between 60 and 140 students.
- AI for Games, 3 credits, spring semesters 2015-2023. Between 20 and 35 students.
- Game Design, 3 credits, spring semesters 2021-2024. Between 25 and 40 students.

Most of these classes have been graduate classes that have also been open to undergraduates. I have used a combination of different examination methods following the customs at each university, with courses at the IT University of Copenhagen being examined using group projects and oral exams, and courses at New York University have been examined with a combination of pen-and-paper exams, programming assignments, in-class exercises and group projects.

12 Internal service

I have been performed internal service both at the IT University of Copenhagen and at New York University. At ITU, I was chair of the Games masters program, a time-consuming managerial task that included considerable input into and responsibility for tasks such as admissions and curriculum planning, as well as day-to-day administration and strategic initiatives related to increasing the employability of graduates.

At NYU, I have participated in the following committees:

- Faculty recruiting committee, 2015-2016, 2018.
- Contract faculty recruiting committee, 2021-22.

- MS program committee, 2016-2017.
- PhD admissions committee, 2018-2021, 2024-2025.
- Visiting Faculty Committee, 2023-2024.
- Ad-hoc tenure committee, 2024.

Additionally, I have been head of the Game Engineering Minor since 2018. This task includes mostly approval of courses in the minor and coordination with undergraduate student advisors.

13 Entrepreneurship

1. Co-founder, modl.ai, 2019-ongoing. Copenhagen-based startup focused on game testing, led by former PhD student Christoffer Holmgård, with other co-founders including frequent research collaborators Sebastian Risi and Georgios N. Yannakakis. 30 employees, raised over €10 millions. Involvement: currently about 1 hour per week, in the past up to a day per week.
2. Chief Scientific Advisor, OriGen.AI, 2019-ongoing. New York-based startup focused on deep learning in the energy sector, led by former PhD student Ruben Rodriguez Torrado. Over $2 millions ARR. Involvement: on average 30 minutes per week.

14 Publications

Published or accepted for publication.

14.1 Books

1. Noor Shaker, Julian Togelius and Mark J. Nelson (2016): *Procedural Content Generation in Games*. Springer.
2. Georgios N. Yannakakis and Julian Togelius (2018): *Artificial Intelligence and Games*. Springer.
3. Julian Togelius (2019): *Playing Smart: on Games, Intelligence, and Artificial Intelligence*. MIT Press.
4. Julian Togelius (2024): *Artificial General Intelligence*. MIT Press.
5. Georgios N. Yannakakis and Julian Togelius (2025): *Artificial Intelligence and Games, 2nd Edition*. Springer.

Of these books, the two MIT Press books are popular science books meant for a wider audience; the Springer books are technical textbooks. Of note, the *Artificial Intelligence and Games* book has sold more than 2000 hardcover copies despite being freely available online, and has been cited more than 700 times. It has also been translated into Chinese, and an updated and expanded second edition has just been sent to the publisher for publication in early 2025. *Procedural Content Generation in Games* has been cited more than 900 times.

14.2 Peer-reviewed journal articles (published or in press)

Underlined names are students under my supervision, either as primary or secondary advisor.

Papers 29 and forward are mainly based on work done at NYU. Papers 42 and forward are mainly based on work done after my tenure notification.

1. Julian Togelius (2004): *Evolution of a subsumption architecture neurocontroller.* Journal of Intelligent and Fuzzy Systems 15:1, 15-20.

2. Alberto Moraglio, Cecilia Di Chio, Julian Togelius and Riccardo Poli (2008): *Geometric Particle Swarm Optimization.* Journal of Artificial Evolution and Applications, article ID 143624, 14 pages.

3. Julian Togelius, Simon M. Lucas, Ho Duc Thang, Jonathan Garibaldi, Tomoharu Nakashima, Chin Hiong Tan, Itamar Elhanany, Shay Berant, Philip Hingston, Robert M. MacCallum, Thomas Haferlach, Aravind Gowrisankar and Pete Burrow (2008): *The 2007 IEEE CEC Simulated Car Racing Competition.* Genetic Programming and Evolvable Machines, 9(4), 295-329.

4. Julian Togelius, Tom Schaul, Daan Wierstra, Christian Igel, Faustino Gomez and Juergen Schmidhuber (2009): *Ontogenetic and Phylogenetic Reinforcement Learning.* Kunstliche Intelligenz, 23(3), 30-33.

5. Christoffer Pedersen, Julian Togelius and Georgios Yannakakis (2010): *Modeling Player Experience for Content Creation.* IEEE Transactions on Computational Intelligence and AI in Games (TCIAIG), 54-67.

6. Daniele Loiacono, Pier Luca Lanzi, Julian Togelius, Enrique Onieva, David A. Pelta, Martin V. Butz, Thies D. Lonneker, Luigi Cardamone, Diego Perez, Yago Saez, Mike Preuss and Jan Quadflieg (2010): *The 2009 Simulated Car Racing Championship.* IEEE Transactions on Computational Intelligence and AI in Games (TCIAIG), 131-147.

7. Georgios N. Yannakakis and Julian Togelius (2011): *Experience-driven Procedural Content Generation.* IEEE Transactions on Affective Computing, 2(3), 147-161.

8. Julian Togelius, Georgios N. Yannakakis, Kenneth O. Stanley and Cameron Browne (2011): *Search-based Procedural Content Generation: A Taxonomy and Survey.* IEEE Transactions on Computational Intelligence and AI in Games (TCIAIG) 3(3), 172-186.

9. Noor Shaker, Julian Togelius, Georgios N. Yannakakis, Ben Weber, Tomoyuki Shimizu, Tomonori Hashiyama, Nathan Sorenson, Philippe Pasquier, Peter Mawhorter, Glen Takahashi, Gillian Smith and Robin Baumgarten (2011): *The 2010 Mario AI championship: Level generation track.* IEEE Transactions on Computational Intelligence and Games 3(4): 332-347.

10. Sergey Karakovskiy and Julian Togelius: *The Mario AI Championship and Competitions.* IEEE Transactions on Computational Intelligence and AI in Games 4(1): 55-67.

11. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2012): *Adapting Models of Visual Aesthetics for Personalized Content Creation.* IEEE Transactions on Computational Intelligence and AI in Games 4(3): 213-228.

12. Juan Ortega, Noor Shaker, Julian Togelius and Georgios N. Yannakakis (2013): *Imitating human playing styles in Super Mario Bros.* Entertainment Computing, Elsevier, vol. 4, pp. 93-104.

13. Alberto Moraglio, Julian Togelius and Sara Silva (2013): *Geometric Differential Evolution for Combinatorial and Program Spaces.* Evolutionary Computation 21(4): 591-624.

14. Noor Shaker, Georgios N. Yannakakis and Julian Togelius (2013): *Crowd-Sourcing the Aesthetics of Platform Games.* IEEE Transactions on Computational Intelligence and AI in Games 5(3): 276-290.

15. Julian Togelius, Mike Preuss, Nicola Beume, Simon Wessing, Georgios N. Yannakakis, Johan Hagelbäck and Corrado Grappiolo (2013): *Controllable Procedural Map Generation via Multiobjective Evolution.* Genetic Programming and Evolvable Machines.

16. Julian Togelius, Noor Shaker, Sergey Karakovskiy and Georgios N. Yannakakis (2013): *The Mario AI Championship 2009-2012.* AI Magazine, 34(3), 89-92.

17. Diego Perez, Julian Togelius, Spyridon Samothrakis, Philipp Rohlfshagen and Simon M. Lucas (2014): *Automated Map Generation for the Physical Travelling Salesman Problem.* IEEE Transactions on Evolutionary Computation 18(5): 708-720 .

18. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2015): *Constrained Novelty Search: A Study on Game Content Generation.* Evolutionary Computation 23(1): 101-129.

19. Georgios N. Yannakakis and Julian Togelius (2015): *A Panorama of Artificial and Computational Intelligence in Games.* IEEE Transactions on Computational Intelligence and AI in Games 7(4): 317-335.

20. Yun-Gyung Cheong, Alaina K. Jensen, Elin Gudnadottir, Byung-Chull Bae and Julian Togelius (2015): Detecting Predatory Behaviour in Game Chats. IEEE Transactions on Computational Intelligence and Games 7(3): 220-232.

21. Julian Togelius (2016): How to run a successful game-based AI competition. IEEE Transactions on Computational Intelligence and AI in Games 8(1): 95-100.

22. Diego Perez, Spyridon Samothrakis, Julian Togelius, Tom Schaul, Simon Lucas, Adrien Couetoux, Jerry Lee, Chong-U Lim and Tommy Thompson (2016): The 2014 General Video Game Playing Competition. IEEE Transactions on Computational Intelligence and AI in Games 8(3): 229-243.

23. Aaron Isaksen, Christoffer Holmgard, Julian Togelius and Andy Nealen (2016): Characterising Score Distributions in Dice Games. Game and Puzzle Design.

24. Sebastian Risi and Julian Togelius (2017): Neuroevolution in Games: State of the Art and Open Challenges. IEEE Transactions on Computational Intelligence and AI in Games 9(1): 25-41.

25. Daniel Jallov, Sebastian Risi and Julian Togelius (2017): EvoCommander: A Novel Game Based on Evolving and Switching Between Artificial Brains. IEEE Transactions on Computational Intelligence and AI in Games 9(2): 181-191.

26. Marco Scirea, Julian Togelius, Peter W. Eklund, Sebastian Risi (2017): Affective evolutionary music composition with MetaCompose. Genetic Programming and Evolvable Machines 18(4): 433-465.

27. Niels Justesen, Tobias Mahlmann, Sebastian Risi and Julian Togelius (2018): Playing Multi-Action Adversarial Games: Online Evolutionary Planning versus Tree Search. IEEE Transactions on Games 10(3): 281-291.

28. Adam Summerville, Sam Snodgrass, Matthew Guzdial, Christoffer Holmgard, Amy K. Hoover, Aaron Isaksen, Andy Nealen, Julian Togelius (2018): Procedural Content Generation via Machine Learning (PCGML). IEEE Transactions on Games 10(3): 257-270.

29. Aaron Isaksen, Daniel Gopstein, Julian Togelius, Andy Nealen (2018): Exploring Game Space of Minimal Action Games via Parameter Tuning and Survival Analysis. IEEE Transactions on Games 10(2): 182-194.

30. Christoffer Holmgard, Michael Cerny Green, Antonios Liapis, Julian Togelius (2019): Automated Playtesting with Procedural Personas through MCTS with Evolved Heuristics. IEEE Transactions on Games.

31. Matthew Stephenson, Jochen Renz, Xiaoyu Ge, Lucas Nascimento Ferreira, Julian Togelius, Peng Zhang (2019): The 2017 AIBIRDS Level Generation Competition. IEEE Transactions on Games 11(3): 275-284.

32. Gabriella Alves Bulhoes Barros, Michael Cerny Green, Antonios Liapis, Julian Togelius (2019): Who Killed Albert Einstein? From Open Data to Murder Mystery Games. IEEE Transactions on Games 11(1): 79-89.

33. Diego Perez-Liebana, Jialin Liu, Ahmed Khalifa, Raluca D. Gaina, Julian Togelius, Simon M. Lucas: General Video Game AI: A Multitrack Framework for Evaluating Agents, Games, and Content Generation Algorithms. IEEE Transactions on Games 11(3): 195-214 (2019).

34. Amy K. Hoover, Julian Togelius, Scott Lee, Fernando de Mesentier Silva: The Many AI Challenges of Hearthstone. Kunstliche Intelligenz 34(1): 33-43 (2020)

35. Christoph Salge, Michael Cerny Green, Rodrigo Canaan, Filip Skwarski, Rafael Fritsch, Adrian Brightmoore, Shaofang Ye, Changxing Cao, Julian Togelius: The AI Settlement Generation Challenge in Minecraft. Kunstliche Intelligenz 34(1): 19-31 (2020)

36. Tae Jong Choi, Julian Togelius, Yun-Gyung Cheong: Advanced Cauchy Mutation for Differential Evolution in Numerical Optimization. IEEE Access 8: 8720-8734 (2020)

37. Niels Justesen, Philip Bontrager, Julian Togelius, Sebastian Risi: Deep Learning for Video Game Playing. IEEE Trans. Games 12(1): 1-20 (2020)

38. Sebastian Risi, Julian Togelius: Increasing Generality in Machine Learning through Procedural Content Generation. Nature Machine Intelligence 2(8): 428-436 (2020).

39. Giuseppe Cuccu, Julian Togelius, Philippe Cudré-Mauroux: Playing Atari with few neurons. Autonomous Agents and Multi Agent Systems 35(2): 17 (2021)

40. Jialin Liu, Sam Snodgrass, Ahmed Khalifa, Sebastian Risi, Georgios N. Yannakakis, Julian Togelius: Deep learning for procedural content generation. Neural Computing and Applications 33(1): 19-37 (2021)

41. Tae Jong Choi, Julian Togelius, Yun-Gyung Cheong: A Fast and efficient stochastic opposition-based learning for differential evolution in numerical optimization. Swarm Evolutionary Computation 60: 100768 (2021)

42. Alberto Alvarez, Steve Dahlskog, José M. Font, Julian Togelius: Interactive Constrained MAP-Elites: Analysis and Evaluation of the Expressiveness of the Feature Dimensions. IEEE Trans. Games 14(2): 202-211 (2022)

43. Alberto Alvarez, José M. Font, Julian Togelius: Toward Designer Modeling Through Design Style Clustering. IEEE Trans. Games 14(4): 676-686 (2022)

44. Aaron Dharna, Amy K. Hoover, Julian Togelius, Lisa B. Soros: Transfer Dynamics in Emergent Evolutionary Curricula. IEEE Trans. Games 15(2): 157-170 (2023)

45. Chengpeng Hu, Ziqi Wang, Tianye Shu, Hao Tong, Julian Togelius, Xin Yao, Jialin Liu: Reinforcement Learning With Dual-Observation for General Video Game Playing. IEEE Trans. Games 15(2): 202-216 (2023)

46. Rodrigo Canaan, Xianbo Gao, Julian Togelius, Andy Nealen, Stefan Menzel: Generating and Adapting to Diverse Ad Hoc Partners in Hanabi. IEEE Trans. Games 15(2): 228-241 (2023)

47. Weiming Liu, Bin Li, Julian Togelius: Model-Free Neural Counterfactual Regret Minimization With Bootstrap Learning. IEEE Trans. Games 15(3): 315-325 (2023)

48. Julian Togelius, Georgios N. Yannakakis: Choose Your Weapon: Survival Strategies for Depressed AI Academics [Point of View]. Proc. IEEE 112(1): 4-11 (2024)

49. David Melhart, Julian Togelius, Benedikte Mikkelsen, Christoffer Holmgård, Georgios N. Yannakakis: The Ethics of AI in Games. IEEE Trans. Affect. Comput. 15(1): 79-92 (2024)

50. Megan Charity, Isha Dave, Ahmed Khalifa, Julian Togelius: Baba is Y'all 2.0: Design and Investigation of a Collaborative Mixed-Initiative System. IEEE Trans. Games 16(1): 75-89 (2024)

14.3 Journal information

Journal name	Impact factor	h-5 index	papers
IEEE Transactions on Games	2.3	27	29
IEEE Transactions on Evolutionary Computation	11.7	68	1
Evolutionary Computation	6.8	28	2
Journal of Intelligent and Fuzzy Systems	1.7	14	1
Genetic Programming and Evolvable Machines	1.7	16	3
Kunstliche Intelligenz	-	15	3
Nature Machine Intelligence	18.8	116	1
AI Magazine	2.1	25	1
IEEE Access	4.1	89	1
IEEE Transactions on Affective Computing	9.6	64	2
Autonomous Agents and Multi Agent Systems	2.0	28	1
Swarm and Evolutionary Computation	8.2	82	1
Neural Computing and Applications	4.5	135	1
Proceedings of the IEEE	23.2	107	1

Note: IEEE Transactions on Games is the new name, since 2018, of IEEE Transactions on Computational Intelligence and AI in Games. I was the Editor-in-Chief of this journal from 2018 to 2021.

14.4 Invited (non-reviewed) journal articles

1. Georgios N. Yannakakis and Julian Togelius (2010): *Conference Report: The 2010 IEEE Conference on Computational Intelligence and Games.* IEEE Computational Intelligence Magazine

2. Julian Togelius, Jim Whitehead and Rafael Bidarra: *Special Issue Introduction: Procedural Content Generation in Games.* IEEE Transactions on Computational Intelligence and Games (TCIAIG), 3 (3).

3. Simon Lucas, Michael Mateas, Pieter Spronck, Mike Preuss and Julian Togelius (2012): *Dagstuhl Report on Seminar 12191: Artificial and Computational Intelligence in Games.* Dagstuhl.

4. Julian Togelius: IEEE Transactions on Games: A Leading Journal for Games Research (2018). IEEE Trans. Games 10(1): 1-2.

5. Julian Togelius: IEEE Transactions on Games: The First Four Years. IEEE Trans. Games 13(4): 325-326 (2021)

14.5 Peer-reviewed conference and symposium papers

Underlined names are students under my supervision, either as primary or secondary advisor.

Papers 108 and forward, except for papers 112, 126, and 127 are mainly based on work done at NYU. Papers 191 and forward are mainly based on work done after my tenure notification.

1. Julian Togelius and Simon M. Lucas (2005): *Forcing neurocontrollers to exploit sensory symmetry through hard-wired modularity in the game of Cellz.* IEEE Symposium on Computational Intelligence and Games, 37-43.

2. Julian Togelius and Simon M. Lucas (2005): Evolving Controllers for Simulated Car Racing. IEEE Congress on Evolutionary Computation (CEC), 1906-1913.

3. Alberto Moraglio, Julian Togelius and Simon M. Lucas (2006): *Product Geometric Crossover for the Sudoku Puzzle*. IEEE Congress on Evolutionary Computation (CEC), 470-476.

4. Renzo De Nardi, Julian Togelius, Owen Holland and Simon M. Lucas (2006): *Evolution of Neural Networks for Helicopter Control: Why Modularity Matters*. IEEE Congress on Evolutionary Computation (CEC),1799-1806.

5. Julian Togelius and Simon M. Lucas (2006): *Evolving robust and specialized car racing skills*. IEEE Congress on Evolutionary Computation (CEC), 1187-1194.

6. Julian Togelius and Simon M. Lucas (2006): *Arms races and car races*. Parallel Problem Solving from Nature (PPSN), 613-622.

7. Hugo Marques, Julian Togelius, Magdalena Kogutowska, Owen Holland and Simon M. Lucas (2007): *Sensorless but not Senseless: Prediction in Evolutionary Car Racing*. IEEE Symposium on Artificial Life, 370-377.

8. Simon M. Lucas and Julian Togelius (2007): *Point-to-Point Car Racing: an Initial Study of Evolution Versus Temporal Difference Learning*. IEEE Symposium on Computational Intelligence and Games (CIG), 260-267.

9. Julian Togelius, Renzo De Nardi and Simon M. Lucas (2007): *Towards automatic personalised content creation for racing games*. IEEE Symposium on Computational Intelligence and Games, 252-259.

10. Alberto Moraglio and Julian Togelius (2007): *Geometric Particle Swarm Optimization for the Sudoku Puzzle*. ACM Genetic and Evolutionary Computation Conference (GECCO), 118-125.

11. Alexandros Agapitos, Julian Togelius and Simon M. Lucas (2007): *Evolving controllers for simulated car racing with object-oriented genetic programming*. ACM Genetic and Evolutionary Computation Conference (GECCO): 1543-1550.

12. Julian Togelius, Renzo De Nardi, Hugo Marques, Richard Newcombe, Simon M. Lucas and Owen Holland (2007): *Nonlinear dynamics modelling for controller evolution*. ACM Genetic and Evolutionary Computation Conference (GECCO): 324-333.

13. Alexandros Agapitos, Julian Togelius and Simon M. Lucas (2007): *Multiobjective techniques for the use of state in object-oriented genetic programming*. IEEE Congress on Evolutionary Computation: 1562-1569.

14. Julian Togelius, Peter Burrow and Simon M. Lucas (2007): *Multi-population competitive co-evolution of car racing controllers*. IEEE Congress on Evolutionary Computation: 4043-4050.

15. Julian Togelius, Renzo De Nardi and Alberto Moraglio (2008): *Geometric PSO + GP = Particle Swarm Programming*. IEEE Congress on Evolutionary Computation (CEC): 3594-3600.

16. Julian Togelius, Faustino Gomez and Juergen Schmidhuber (2008): *Learning what to ignore: memetic climbing in weight and topology space*. IEEE Congress on Evolutionary Computation (CEC): 3274-3281.

17. Julian Togelius, Tom Schaul, Juergen Schmidhuber and Faustino Gomez (2008): *Countering Poisonous Inputs with Memetic Neuroevolution*. Parallel Problem Solving from Nature (PPSN): 610-619.

18. Daniele Loiacono, Julian Togelius, Pier Luca Lanzi, Leonard Kinnaird-Heether, Simon M. Lucas, Matt Simmerson, Diego Perez, Robert G. Reynolds and Yago Saez (2008): *The WCCI 2008 Simulated Car Racing Competition.* IEEE Symposium on Computational Intelligence and Games (CIG): 119-126.

19. Alexandros Agapitos, Julian Togelius, Simon M. Lucas, Juergen Schmidhuber and Andreas Konstantinidis (2008): *Generating Diverse Opponents with Multiobjective Evolution.* IEEE Symposium on Computational Intelligence and Games (CIG): 135-142.

20. Julian Togelius and Juergen Schmidhuber (2008): *An Experiment in Automatic Game Design.* IEEE Symposium on Computational Intelligence and Games (CIG): 111-118.

21. Alberto Moraglio and Julian Togelius (2009): *Inertial Geometric Particle Swarm Optimization.* IEEE Congress on Evolutionary Computation (CEC), 1973-1980.

22. Niels van Hoorn, Julian Togelius, Daan Wierstra and Juergen Schmidhuber (2009): *Robust player imitation with multiobjective evolution.* IEEE Congress on Evolutionary Computation (CEC), 1187-1194.

23. Alberto Moraglio and Julian Togelius (2009): *Geometric Differential Evolution.* ACM Genetic and Evolutionary Computation Conference (GECCO): 1705-1712.

24. Faustino J. Gomez, Julian Togelius and Juergen Schmidhuber (2009): *Measuring and Optimizing Behavioral Complexity for Evolutionary Reinforcement Learning.* International Conference on Artificial Neural Networks (ICANN): 765-774.

25. Justin Bayer, Daan Wierstra, Julian Togelius and Juergen Schmidhuber (2009): *Evolving memory cell structures for sequence learning.* International Conference on Artificial Neural Networks (ICANN): 755-764.

26. Christoffer Pedersen, Julian Togelius and Georgios Yannakakis (2009): *Optimization of platform game levels for player experience.* Artificial Intelligence and Interactive Digital Entertainment (AIIDE).

27. Christoffer Pedersen, Julian Togelius and Georgios Yannakakis (2009): *Modeling Player Experience in Super Mario Bros.* Proceedings ot the IEEE Symposium on Computational Intelligence and Games (CIG), 132-139.

28. Niels van Hoorn, Julian Togelius and Juergen Schmidhuber (2009): *Hierarchical Controller Learning in a First-Person Shooter.* Proceedings ot the IEEE Symposium on Computational Intelligence and Games (CIG), 294-301.

29. Julian Togelius, Sergey Karakovskiy, Jan Koutnik and Juergen Schmidhuber (2009): *Super Mario Evolution.* Proceedings ot the IEEE Symposium on Computational Intelligence and Games (CIG), 156-161.

30. Julian Togelius, Georgios Yannakakis, Kenneth O. Stanley and Cameron Browne (2010): *Search-based Procedural Content Generation.* International Conference on the Applications of Evolutionary Computation (EvoApplications): 141-150.

31. Julian Togelius, Sergey Karakovskiy and Robin Baumgarten (2010): *The 2009 Mario AI Competition.* IEEE Congress on Evolutionary Computation (CEC): 1-8.

32. Alberto Moraglio and Julian Togelius (2010): *Geometric Nelder-Mead Algorithm for the Permutation Representation.* IEEE Congress on Evolutionary Computation (CEC): 1-8.

33. Tobias Mahlmann, Anders Drachen, Alessandro Canossa, Julian Togelius and Georgios N. Yannakakis (2010): *Predicting Player Behavior in Tomb Raider: Underworld.* IEEE Conference on Computational Intelligence and Games (CIG): 178-185.

34. Julian Togelius, Mike Preuss, Nicola Beume, Simon Wessing, Johan Hagelback and Georgios N. Yannakakis (2010): *Multiobjective exploration of the StarCraft map space.* IEEE Conference on Computational Intelligence and Games (CIG), 265-272.

35. Noor Shaker, Georgios N. Yannakakis and Julian Togelius (2010): *Towards Automatic Personalized Content Generation for Platform Games.* Artificial Intelligence and Interactive Digital Entertainment (AIIDE).

36. Georgios N. Yannakakis, Julian Togelius, Rilla Khaled, Arnav Jhala, Kostas Karpouzis, Ana Paiva and Asimina Vasalou (2010): *Siren: Towards Adaptive Serious Games for Teaching Conflict Resolution.* Proceedings European Conference on Games-Based Learning (ECGBL), 412-417.

37. Luigi Cardamone, Georgios N. Yannakakis, Julian Togelius and Pier Luca Lanzi (2011): *Evolving Interesting Maps for a First Person Shooter.* International Conference on the Applications of Evolutionary Computation (EvoApps): 63-72.

38. Tobias Mahlmann, Julian Togelius and Georgios N. Yannakakis (2011): *Towards Procedural Strategy Game Generation: Evolving Complementary Unit Types.* International Conference on the Applications of Evolutionary Computation (EvoApps): 93-102.

39. Corrado Grappiolo, Georgios N. Yannakakis, Julian Togelius, Rilla Khaled, and Yun-Gyung Cheong (2011): *Towards Player Adaptivity in a Serious Game for Conflict Resolution.* IEEE International Conference on Games and Virtual Worlds for Serious Applications, 192-198.

40. Phillipa Avery, Julian Togelius, Elvis Alistar and Robert Pieter van Leeuwen (2011): *Computational Intelligence and Tower Defence Games.* IEEE Congress on Evolutionary Computation (CEC), 1084-1091.

41. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2011): *Neuroevolutionary Constrained Optimization for Content Creation.* IEEE Conference on Computational Intelligence and Games (CIG): 71-78.

42. Tobias Mahlmann, Julian Togelius and Georgios N. Yannakakis (2011): *Modelling and evaluation of complex scenarios with the Strategy Game Description Language.* IEEE Conference on Computational Intelligence and Games (CIG): 174-181.

43. Noor Shaker, Georgios N. Yannakakis and Julian Togelius (2011): *Feature Analysis for Modeling Game Content Quality.* IEEE Conference on Computational Intelligence and Games (CIG): 126-133.

44. Julian Togelius (2011): *A procedural critique of deontological reasoning.* Digital Games Research Association Conference (DiGRA).

45. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2011): *Optimizing visual properties of game content through neuroevolution.* Artificial Intelligence and Interactive Digital Entertainment Conference (AIIDE).

46. Afsaneh Doryab, Julian Togelius and Jakob Bardram (2012): *Activity-aware Recommendation for Collaborative Work in Operating Rooms.* ACM International Conference on Intelligent User Interfaces (IUI): 301-304.

47. Tobias Mahlmann, Julian Togelius and Georgios N. Yannakakis (2012): *Spicing up map generation.* International Conference on the Applications of Evolutionary Computation (EvoApps): 224-233.

48. Noor Shaker, Georgios N. Yannakakis and Julian Togelius (2012): *Digging deeper into platform game level design: session size and sequential features.* International Conference on the Applications of Evolutionary Computation (EvoApps): 275-284.

49. Marie Gustafsson Friberger and Julian Togelius (2012): *Generating game content from open data.* Foundations of Digital Games Conference (FDG).

50. Tobias Mahlmann, Julian Togelius and Georgios N. Yannakakis (2012): *Evolving Card Sets Towards Balancing Dominion.* IEEE Congress on Evolutionary Computation (CEC): 1-8.

51. Afsaneh Doryab and Julian Togelius (2012): *Concurrent Activity Recognition For Clinical Work.* International Joint Conference on Neural Networks (IJCNN): 1-8.

52. Trondur Justinussen, Peter Hald Rasmussen, Alessandro Canossa and Julian Togelius (2012): *Resource Systems in Games: An Analytical Approach.* IEEE Conference on Computational Intelligence and Games (CIG): 171-178.

53. Manuel Kerssemaker, Jeppe Tuxen, Julian Togelius and Georgios N. Yannakakis (2012): *A Procedural Procedural Content Generator Generator.* IEEE Conference on Computational Intelligence and Games (CIG): 335-341.

54. Noor Shaker, Miguel Nicolau, Georgios N. Yannakakis, Julian Togelius and Michael O'Neill (2012): *Evolving Levels for Super Mario Bros Using Grammatical Evolution.* IEEE Conference on Computational Intelligence and Games (CIG): 304-311.

55. Marie Gustafsson Friberger and Julian Togelius (2012): *Generating Interesting Monopoly Boards from Open Data.* IEEE Conference on Computational Intelligence and Games (CIG): 288-295.

56. Noor Shaker, Georgios N. Yannakakis, Julian Togelius, Miguel Nicolau, and Michael O'Neill (2012): *Evolving Personalized Content for Super Mario Bros Using Grammatical Evolution.* AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE).

57. Mohammad Shaker, Noor Shaker and Julian Togelius (2013): *Evolving Playable Content for Cut the Rope through a Simulation-Based Approach.* AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE).

58. Christoffer Holmgard, Julian Togelius and Georgios N. Yannakakis (2013): *Decision Making Styles as Deviation from Rational Action A Super Mario Case Study.* AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE).

59. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2013): *Towards a Generic Method of Evaluating Game Levels.* AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE).

60. Nils Iver Holtar, Mark J. Nelson and Julian Togelius (2013): *Audioverdrive: Exploring bidirectional communication between music and gameplay.* International Computer Music Conference (ICMC).

61. Mohammad Shaker, Mhd Hasan Sarhan, Ola Al Naameh, Noor Shaker and Julian Togelius (2013): *Automatic Generation and Analysis of Physics-Based Puzzle Games.* IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

62. Antonios Liapis, Hector Perez Martine¡, Julian Togelius and Georgios N. Yannakakis (2013): *Adaptive Game Level Creation through Rank-based Interactive Evolution.* IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

63. Alessandro Canossa, Josep B. Martinez and Julian Togelius (2013): *Give Me a Reason to Dig: Minecraft and the Psychology of Motivation.* IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

64. Noor Shaker, Julian Togelius, Georgios N. Yannakakis, Likith P. K. Satish, Vinay S. Ethiraj, Stefan J. Johansson, Robert Reynolds, Leonard Kinnaird-Heether, Tom Schumann and Marcus Gallagher (2013): *The Turing Test Track of the 2012 Mario AI Championship: Entries and Evaluation.* IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

65. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2013): *Enhancements to Constrained Novelty Search: Two-Population Novelty Search for Generating Game Content.* ACM Genetic and Evolutionary Competition Conference (GECCO): 343-350.

66. Corrado Grappiolo, Julian Togelius and Georgios N. Yannakakis (2013): *Interaction-based Group Identity Detection via Reinforcement Learning and Artificial Evolution.* ACM Genetic and Evolutionary Competition Conference (GECCO): 1423-1430.

67. Antonios Liapis, Hector P. Martinez, Julian Togelius and Georgios N. Yannakakis (2013): *Transforming Exploratory Creativity with DeLeNoX.* Fourth International Conference on Computational Creativity (ICCC): 56-63.

68. Andrew Borg Cardona, Julian Togelius and Mark J. Nelson (2013): *Competitive Coevolution in Ms. Pac-Man.* IEEE Congress on Evolutionary Computation (CEC): 1403-1410.

69. Corrado Grappiolo, Julian Togelius and Georgios N. Yannakakis (2013): *Shifting Niches for Community Structure Detection.* IEEE Congress on Evolutionary Computation (CEC): 111-118.

70. Julian Togelius and Marie Gustafsson Friberger (2013): *Bar Chart Ball, a Data Game.* ACM Foundations of Digital Games (FDG): 451-452.

71. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2013): *Sentient Sketchbook: Computer-aided game level authoring.* ACM Foundations of Digital Games (FDG): 213-220.

72. Corrado Grappiolo, Julian Togelius and Georgios N. Yannakakis (2013): *Artificial Evolution for the Detection of Group Identities in Complex Artificial Societies.* IEEE Symposium on Artificial Life.

73. Jose M. Font, Tobias Mahlmann, Daniel Manrique and Julian Togelius (2013): *Towards the automatic generation of card games through grammar-guided genetic programming.* ACM Foundations of Digital Games (FDG): 360-363.

74. Antonios Liapis, Georgios Yannakakis and Julian Togelius (2013): *Sentient World: Human-Based Procedural Cartography.* International Conference on the Applications of Evolutionary Computation (EvoApplications).

75. Antonios Liapis, Georgios Yannakakis and Julian Togelius (2013): *Generating Map Sketches for Strategy Games.* International Conference on the Applications of Evolutionary Computation (EvoApplications): 264-273.

76. Jose M. Font, Tobias Mahlmann, Daniel Manrique and Julian Togelius (2013): *A Card Game Description Language.* International Conference on the Applications of Evolutionary Computation (EvoApplications): 254-263.

77. Steve Dahlskog and Julian Togelius (2014): Procedural Content Generation Using Patterns as Objectives. International Conference on the Applications of Evolutionary Computation (EvoApplications): 325-336.

78. Britton Horn, Steve Dahlskog, Noor Shaker, Gillian Smith and Julian Togelius (2014): A Comparative Evaluation of Procedural Level Generators in the Mario AI Framework. ACM Foundations of Digital Games (FDG).

79. Julian Togelius, Noor Shaker and Georgios N. Yannakakis (2014): Active Player Modelling. ACM Foundations of Digital Games (FDG).

80. Andrew Borg Cardona, Aske Walther Hansen, Julian Togelius and Marie Gustafsson Friberger (2014): Open Trumps, a Data Game. ACM Foundations of Digital Games (FDG).

81. Christoffer Holmgard, Antonios Liapis, Julian Togelius and Georgios N. Yannakakis (2014): Generative Agents for Player Decision Modeling in Games. ACM Foundations of Digital Games (FDG).

82. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2014): Computational Game Creativity. International Conference on Computational Creativity (ICCC): 46-53.

83. Emil Juul Jacobsen, Rasmus Greve and Julian Togelius (2014): Monte Mario: Platforming with MCTS. ACM Conference on Genetic and Evolutionary Computation (GECCO): 293-300.

84. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2014): Designer Modeling for Sentient Sketchbook. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

85. Mike Preuss, Antonios Liapis and Julian Togelius (2014): Searching for Good and Diverse Game Levels. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

86. Christoffer Holmgard, Antonios Liapis, Julian Togelius and Georgios N. Yannakakis (2014): Evolving Personas for Player Decision Modeling. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

87. Steve Dahlskog and Julian Togelius (2014): A Multi-level Level Generator. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

88. Niels Justesen, Balint Tillman, Julian Togelius and Sebastian Risi (2014): Script- and Cluster-based UCT for StarCraft. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

89. Christoffer Holmgard, Antonios Liapis, Julian Togelius and Georgios N. Yannakakis (2014): Personas versus Clones for Player Decision Modeling. International Conference on Entertainment Computing (ICEC): 159-166.

90. Mohammad Shaker, Noor Shaker, Mohamed Abou-Zliekha and Julian Togelius (2015): A Projection-Based Approach for Real-time Assessment and Playability Check for Physics-Based Games. International Conference on the Applications of Evolutionary Computation (EvoApplications): 430-442.

91. Mohammad Shaker, Noor Shaker, Julian Togelius and Mohamed Abou-Zliekha (2015): A Progressive Approach to Content Generation. International Conference on the Applications of Evolutionary Computation (EvoApplications).

92. Antonios Liapis, Christoffer Holmgard, Georgios N. Yannakakis and Julian Togelius (2015): Procedural Personas as Critics for Dungeon Generation. International Conference on the Applications of Evolutionary Computation (EvoApplications): 331-343.

93. Marco Scirea, Mark J. Nelson and Julian Togelius (2015): Moody music generator: Characterising control parameters using crowdsourcing. International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt): 200-211.

94. Thorbjorn S. Nielsen, Gabriella Barros, Julian Togelius and Mark J. Nelson (2015): General video game evaluation using relative algorithm performance profiles. International Conference on the Applications of Evolutionary Computation (EvoApplications): 369-380.

95. Jan Piskur, Peter Greve, Julian Togelius and Sebastian Risi (2015): BrainCrafter: An Investigation Into Human-based Neural Network Engineering. IEEE Congress on Evolutionary Computation (CEC): 2199-2206.

96. Gabriella Barros and Julian Togelius (2015): Balanced Civilization Map Generation based on Open Data. IEEE Congress on Evolutionary Computation (CEC): 1482-1489.

97. Marco Scirea, Gabriella Barros, Noor Shaker and Julian Togelius (2015): SMUG: Scientific Music Generator. International Conference on Computational Creativity (ICCC): 204-211.

98. Jacob Fischer, Nikolaj Falsted, Mathias Vielwerth, Julian Togelius and Sebastian Risi (2015): Monte-Carlo Tree Search for Simulated Car Racing. Foundations of Digital Games (FDG).

99. Mike Treanor, Alex Zook, Mirjam P Eladhari, Julian Togelius, Gillian Smith, Michael Cook, Tommy Thompson, Brian Magerko, John Levine and Adam Smith (2015): AI-based Game Design Patterns. Foundations of Digital Games (FDG).

100. Benjamin Mark, Tudor Berechet, Tobias Mahlmann and Julian Togelius (2015): Procedural Generation of 3D Caves for Games on the GPU. Foundations of Digital Games (FDG).

101. Kristian Hjaltason, Steffen Christophersen, Julian Togelius and Mark J. Nelson (2015): Game mechanics telling stories? An experiment. Foundations of Digital Games (FDG).

102. Steve Dahlskog, Staffan Bjork and Julian Togelius (2015): Patterns, Dungeons and Generators. Foundations of Digital Games (FDG).

103. Thorbjorn S. Nielsen, Gabriella Barros, Julian Togelius and Mark J. Nelson (2015): Towards generating arcade game rules with VGDL. IEEE Conference on Computational Intelligence and Games (CIG): 185-192.

104. Frederik Frydenberg, Kasper Andersen, Sebastian Risi and Julian Togelius (2015): Investigating MCTS Modifications in General Video Game Playing. IEEE Conference on Computational Intelligence and Games (CIG): 107-113.

105. Marco Scirea, Julian Togelius, Peter Eklund and Sebastian Risi (2016): MetaCompose: A Compositional Evolutionary Music Composer. International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt): 202-217.

106. Jose M. Font, Roberto Izquierdo, Daniel Manrique and Julian Togelius (2016): Constrained Level Generation through Grammar-Based Evolutionary Algorithms. International Conference on the Applications of Evolutionary Computation (EvoApplications): 558-573.

107. Niels Justesen, Tobias Mahlmann and Julian Togelius (2016): Online Evolution for Multi-Action Adversarial Games. International Conference on the Applications of Evolutionary Computation (EvoApplications): 590-603.

108. Ahmed Khalifa, Diego Perez-Liebana, Simon M. Lucas and Julian Togelius (2016): General Video Game Level Generation. ACM Genetic and Evolutionary Computation Conference (GECCO): 253-259.

109. Ahmed Khalifa, Aaron Isaksen, Julian Togelius and Andy Nealen (2016): Modifying MCTS for Human-like General Video Game Playing. International Joint Conference on Artificial Intelligence (IJCAI): 2514-2520.

110. Gabriella Barros, Antonios Liapis and Julian Togelius (2016): Playing with Data: Procedural Generation of Adventures from Open Data. Joint Conference of DiGRA-FDG.

111. Gabriella Barros, Antonios Liapis and Julian Togelius (2016): Murder Mystery Generation from Open Data. International Conference on Computational Creativity (ICCC): 197-204.

112. Diego Perez, Spyros Samothrakis, Julian Togelius, Tom Schaul and Simon M. Lucas (2016): Analyzing the Robustness of General Video Game Playing Agents. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

113. Fernando Silva, Aaron Isaksen, Julian Togelius and Andy Nealen (2016): Generating Heuristics for Novice Players. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

114. Andre Mendes, Andy Nealen and Julian Togelius (2016): Hyper-Heuristic General Video Game Playing. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

115. Christoffer Holmgard, Julian Togelius and Lars Henriksen (2016): Computational Intelligence and Cognitive Performance Assessment Games. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

116. Julian Togelius and Georgios N. Yannakakis (2016): General General Game AI. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

117. Philip Bontrager, Ahmed Khalifa, Andre Mendes and Julian Togelius (2016): Matching Games and Algorithms for General Video Game Playing. Artificial Intelligence and Interactive Digital Entertainment (AIIDE): 122-128.

118. Che Wang, Pan Chen, Yuanda Li, Christoffer Holmgard and Julian Togelius (2016): Portfolio Online Evolution in StarCraft. Artificial Intelligence and Interactive Digital Entertainment (AIIDE): 114-121.

119. Ahmed Khalifa, Mike Preuss and Julian Togelius (2017): Multi-objective Adaptation of a Parameterized GVGAI Agent Towards Several Games. International Conference on Evolutionary Multi-Criterion Optimization (EMO): 359-374.

120. Ivan Bravi, Ahmed Khalifa, Christoffer Holmgard and Julian Togelius (2017): Evolving game-Specific UCB alternatives for General Video Game Playing. International Conference on the Applications of Evolutionary Computation (EvoApplications): 393-406.

121. Samuel Alvernaz and Julian Togelius (2017): Autoencoder-augmented Neuroevolution for Visual Doom Playing. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

122. Ahmed Khalifa, Michael Cerny Green, Diego Perez Liebana and Julian Togelius (2017): General Video Game Rule Generation. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

123. Scott Lee and Julian Togelius (2017): Showdown AI Competition. IEEE Conference on Computational Intelligence and Games (CIG): 1-8.

124. Tiago Machado, Andy Nealen and Julian Togelius (2017): SeekWhence: A Retrospective Analysis Tool for General Game Design. ACM Foundations of Digital Games (FDG): 4:1-4:6.

125. Fernando de Mesentier Silva, Scott Lee, Julian Togelius and Andy Nealen (2017): AI-based Playtesting of Contemporary Board Games. ACM Foundations of Digital Games (FDG): 13:1-13:10.

126. Marco Scirea, Peter Eklund, Julian Togelius and Sebastian Risi (2017): Can You Feel It? Evaluation of Affective Expression in Music Generated by MetaCompose. ACM Genetic and Evolutionary Computation Conference (GECCO): 211-218.

127. Jialin Liu, Julian Togelius, Diego Perez-Liebana, Simon M. Lucas (2017): Evolving Game Skill-Depth using General Video Game AI Agents. IEEE Congress on Evolutionary Computation (CEC): 2299-2307.

128. Ahmed Khalifa, Gabriella A. B. Barros and Julian Togelius (2017): DeepTingle. International Conference on Computational Creativity (ICCC): 167-174.

129. Perttu Hamalainen, Xiaoxiao Ma, Jari Takatalo, Julian Togelius (2017): Predictive Physics Simulation in Game Mechanics. CHI PLAY: 497-505.

130. Paul Squires, Harold G. Kaufman, Julian Togelius, Catalina M. Jaramillo (2017): A comparative sequence analysis of career paths among knowledge workers in a multinational bank. BigData: 3604-3612

131. Antonios Liapis, Michael Cerny Green, Gabriella A. B. Barros, Julian Togelius (2018): Data-driven Design: A Case for Maximalist Game Design. ICCC: 169-176

132. Aditi Roy, Nasir D. Memon, Julian Togelius, Arun Ross (2018): Evolutionary Methods for Generating Synthetic MasterPrint Templates: Dictionary Attack in Fingerprint Recognition. ICB: 39-46

133. Fernando de Mesentier Silva, Julian Togelius, Frank Lantz, Andy Nealen (2018): Generating beginner heuristics for simple texas hold'em. GECCO: 181-188

134. Ahmed Khalifa, Scott Lee, Andy Nealen, Julian Togelius (2018): Talakat: bullet hell generation through constrained map-elites. ACM Genetic and Evolutionary Computation Conference (GECCO): 1047-1054

135. Hongwei Zhou, Yichen Gong, Luvneesh Mugrai, Ahmed Khalifa, Andy Nealen, Julian Togelius (2018): A hybrid search agent in pommerman. ACM Foundations of Digital Games (FDG): 46:1-46:4.

136. Fernando de Mesentier Silva, Christoph Salge, Aaron Isaksen, Julian Togelius, Andy Nealen (2018): Drawing without replacement as a game mechanic. ACM Foundations of Digital Games (FDG): 57:1-57:6.

137. Fernando de Mesentier Silva, Scott Lee, Julian Togelius, Andy Nealen (2018): Evolving maps and decks for ticket to ride. ACM Foundations of Digital Games (FDG): 48:1-48:7.

138. Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Tiago Machado, Andy Nealen, Julian Togelius (2018): AtDELFI: automatically designing legible, full instructions for games. ACM Foundations of Digital Games (FDG): 17:1-17:10.

139. Michael Cerny Green, Gabriella A. B. Barros, Antonios Liapis, Julian Togelius (2018): DATA agent. ACM Foundations of Digital Games (FDG): 19:1-19:10.

140. Aditya Bhatt, Scott Lee, Fernando de Mesentier Silva, Connor W. Watson, Julian Togelius, Amy K. Hoover (2018): Exploring the hearthstone deck space. ACM Foundations of Digital Games (FDG): 18:1-18:10.

141. Philip Bontrager, Wending Lin, Julian Togelius, Sebastian Risi (2018): Deep Interactive Evolution. International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt): 267-282.

142. Damien Anderson, Matthew Stephenson, Julian Togelius, Christoph Salge, John Levine, Jochen Renz (2018): Deceptive Games. International Conference on the Applications of Evolutionary Computation (EvoApplications): 376-391.

143. Ruben Rodriguez Torrado, Philip Bontrager, Julian Togelius, Jialin Liu, Diego Perez-Liebana (2018): Deep Reinforcement Learning for General Video Game AI. CIG: 1-8

144. Fernando de Mesentier Silva, Julian Togelius, Frank Lantz, Andy Nealen (2018): Generating Novice Heuristics for Post-Flop Poker. CIG: 1-8

145. Christian Guckelsberger, Christoph Salge, Julian Togelius: New And Surprising Ways to Be Mean (2018). CIG: 1-8

146. Rodrigo Canaan, Haotian Shen, Ruben Rodriguez Torrado, Julian Togelius, Andy Nealen, Stefan Menzel (2018): Evolving Agents for the Hanabi 2018 CIG Competition. CIG: 1-8

147. Rodrigo Canaan, Stefan Menzel, Julian Togelius, Andy Nealen (2018): Towards Game-based Metrics for Computational Co-Creativity. CIG: 1-8

148. Tiago Machado, Daniel Gopstein, Andy Nealen, Oded Nov, Julian Togelius (2018): AI-Assisted Game Debugging with Cicero. CEC: 1-8

149. Marco Scirea, Peter W. Eklund, Julian Togelius, Sebastian Risi (2018): Evolving in-game mood-expressive music with MetaCompose. Audio Mostly Conference: 8:1-8:8

150. Alessandro Canossa, Sasha Makarovych, Julian Togelius, Anders Drachen (2018): Like a DNA String: Sequence-Based Player Profiling in Tom Clancy's The Division. AIIDE: 152-158

151. Philip Bontrager, Aditi Roy, Julian Togelius, Nasir D. Memon, Arun Ross (2018): DeepMasterPrints: Generating MasterPrints for Dictionary Attacks via Latent Variable Evolution. BTAS: 1-9

152. Philip Bontrager, Ahmed Khalifa, Damien Anderson, Matthew Stephenson, Christoph Salge, Julian Togelius (2019): "Superstition" in the Network: Deep Reinforcement Learning Plays Deceptive Games. AIIDE: 10-16

153. Tiago Machado, Daniel Gopstein, Angela Wang, Oded Nov, Andrew Nealen, Julian Togelius (2019): Evaluation of a Recommender System for Assisting Novice Game Designers. AIIDE: 167-173

154. Giuseppe Cuccu, Julian Togelius, Philippe Cudre-Mauroux (2019): Playing Atari with Six Neurons. Autonomous Agents and Multi-Agent Systems (AAMAS): 998-1006.

155. Alberto Alvarez, Steve Dahlskog, Jose M. Font, Julian Togelius: Empowering Quality Diversity in Dungeon Design with Interactive Constrained MAP-Elites. IEEE Conference on Games (CoG): 1-8.

156. Rodrigo Canaan, Julian Togelius, Andy Nealen, Stefan Menzel: Diverse Agents for Ad-Hoc Cooperation in Hanabi. IEEE Conference on Games (CoG): 1-8.

157. Daniele Gravina, Ahmed Khalifa, Antonios Liapis, Julian Togelius, Georgios N. Yannakakis: Procedural Content Generation through Quality Diversity. IEEE Conference on Games (CoG): 1-8.

158. Niels Justesen, Lasse MÃžller Uth, Christopher Jakobsen, Peter David Moore, Julian Togelius, Sebastian Risi: Blood Bowl: A New Board Game Challenge and Competition for AI. IEEE Conference on Games (CoG): 1-8.

159. Ahmed Khalifa, Dan Gopstein, Julian Togelius: ELIMINATION from Design to Analysis. IEEE Conference on Games (CoG): 1-4.

160. Ahmed Khalifa, Fernando de Mesentier Silva, Julian Togelius: Level Design Patterns in 2D Games. IEEE Conference on Games (CoG): 1-8.

161. Tiago Machado, Daniel Gopstein, Andy Nealen, Julian Togelius: Pitako - Recommending Game Design Elements in Cicero. IEEE Conference on Games (CoG): 1-8.

162. Luvneesh Mugrai, Fernando de Mesentier Silva, Christoffer Holmgard, Julian Togelius: Automated Playtesting of Matching Tile Games. IEEE Conference on Games (CoG): 1-7.

163. Fernando de Mesentier Silva, Rodrigo Canaan, Scott Lee, Matthew C. Fontaine, Julian Togelius, Amy K. Hoover: Evolving the Hearthstone Meta. IEEE Conference on Games (CoG): 1-8.

164. Sarjak Thakkar, Changxing Cao, Lifan Wang, Tae Jong Choi, Julian Togelius: Autoencoder and Evolutionary Algorithm for Level Generation in Lode Runner. IEEE Conference on Games (CoG): 1-4.

165. Rodrigo Canaan, Christoph Salge, Julian Togelius, Andy Nealen: Leveling the playing field: fairness in AI versus human game benchmarks. ACM Foundations of Digital Games (FDG) 2019: 37:1-37:8

166. Matthew C. Fontaine, Scott Lee, L. B. Soros, Fernando de Mesentier Silva, Julian Togelius, Amy K. Hoover: Mapping hearthstone deck spaces through MAP-elites with sliding boundaries. ACM Genetic and Evolutionary Computation Conference (GECCO): 161-169

167. Kai Arulkumaran, Antoine Cully, Julian Togelius: AlphaStar: an evolutionary computation perspective. ACM Genetic and Evolutionary Computation Conference (GECCO): 314-315.

168. Ahmed Khalifa, Michael Cerny Green, Gabriella A. B. Barros, Julian Togelius: Intentional computational level design. ACM Genetic and Evolutionary Computation Conference (GECCO): 796-803.

169. Arthur Juliani, Ahmed Khalifa, Vincent-Pierre Berges, Jonathan Harper, Ervin Teng, Hunter Henry, Adam Crespi, Julian Togelius, Danny Lange: Obstacle Tower: A Generalization Challenge in Vision, Control, and Planning. International Joint Conference on Artificial Intelligence (IJCAI): 2684-2691.

170. Catalina M. Jaramillo, Paul Squires, Harold G. Kaufman, Andre Mendes da Silva, Julian Togelius: Word embedding for job market spatial representation: tracking changes and predicting skills demand. IEEE BigData 2020: 5713-5715

171. Matthew Stephenson, Damien Anderson, Ahmed Khalifa, John Levine, Jochen Renz, Julian Togelius, Christoph Salge: A Continuous Information Gain Measure to Find the Most Discriminatory Problems for AI Benchmarking. CEC 2020: 1-8

172. Ruben Rodriguez Torrado, Ahmed Khalifa, Michael Cerny Green, Niels Justesen, Sebastian Risi, Julian Togelius: Bootstrapping Conditional GANs for Video Game Level Generation. CoG 2020: 41-48

173. Chang Ye, Ahmed Khalifa, Philip Bontrager, Julian Togelius: Rotation, Translation, and Cropping for Zero-Shot Generalization. CoG 2020: 57-64

174. Vanessa Volz, Niels Justesen, Sam Snodgrass, Sahar Asadi, Sami Purmonen, Christoffer Holmgård, Julian Togelius, Sebastian Risi: Capturing Local and Global Patterns in Procedural Content Generation via Machine Learning. CoG 2020: 399-406

175. Megan Charity, Ahmed Khalifa, Julian Togelius: Baba is Y'all: Collaborative Mixed-Initiative Level Design. CoG 2020: 542-549

176. Andre Mendes, Julian Togelius, Leandro dos Santos Coelho: Multi-Stage Transfer Learning with an Application to Selection Process. ECAI 2020: 1770-1777

177. Megan Charity, Michael Cerny Green, Ahmed Khalifa, Julian Togelius: Mech-Elites: Illuminating the Mechanic Space of GVG-AI. FDG 2020: 8:1-8:10

178. Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Tiago Machado, Julian Togelius: Automatic Critical Mechanic Discovery Using Playtraces in Video Games. FDG 2020: 9:1-9:9

179. Ahmed Khalifa, Julian Togelius: Multi-Objective level generator generation with Marahel. FDG 2020: 104:1-104:8

180. Matthew C. Fontaine, Julian Togelius, Stefanos Nikolaidis, Amy K. Hoover: Covariance matrix adaptation for the rapid illumination of behavior space. GECCO 2020: 94-102

181. Andre Mendes, Julian Togelius, Leandro dos Santos Coelho: Adversarial Encoder-Multi-Task-Decoder for Multi-Stage Processes. ICPR 2020: 763-770

182. Andre Mendes, Julian Togelius, Leandro dos Santos Coelho: Unified Multi-Domain Learning and Data Imputation using Adversarial Autoencoder. IJCNN 2020: 1-8

183. Crystal Butler, Harriet Oster, Julian Togelius: Human-in-the-Loop AI for Analysis of Free Response Facial Expression Label Sets. IVA 2020: 9:1-9:8

184. Andre Mendes, Julian Togelius, Leandro dos Santos Coelho: Adversarial Autoencoder and Multi-Task Semi-Supervised Learning for Multi-stage Process. PAKDD (2) 2020: 3-16

185. Debosmita Bhaumik, Ahmed Khalifa, Michael Cerny Green, Julian Togelius: Tree Search versus Optimization Approaches for Map Generation. AIIDE 2020: 24-30

186. Rodrigo Canaan, Xianbo Gao, Youjin Chung, Julian Togelius, Andy Nealen, Stefan Menzel: Behavioral Evaluation of Hanabi Rainbow DQN Agents and Rule-Based Agents. AIIDE 2020: 31-37

187. Ahmed Khalifa, Philip Bontrager, Sam Earle, Julian Togelius: PCGRL: Procedural Content Generation via Reinforcement Learning. AIIDE 2020: 95-101

188. Hejia Zhang, Matthew C. Fontaine, Amy K. Hoover, Julian Togelius, Bistra Dilkina, Stefanos Nikolaidis: Video Game Level Repair via Mixed Integer Linear Programming. AIIDE 2020: 151-158

189. Aaron Dharna, Julian Togelius, Lisa B. Soros: Co-Generation of Game Levels and Game-Playing Agents. AIIDE 2020: 203-209

190. Catalina M. Jaramillo, Megan Charity, Rodrigo Canaan, Julian Togelius: Word Autobots: Using Transformers for Word Association in the Game Codenames. AIIDE 2020: 231-237

191. Matthew C. Fontaine, Ruilin Liu, Ahmed Khalifa, Jignesh Modi, Julian Togelius, Amy K. Hoover, Stefanos Nikolaidis: Illuminating Mario Scenes in the Latent Space of a Generative Adversarial Network. AAAI 2021: 5922-5930

192. Debosmita Bhaumik, Ahmed Khalifa, Julian Togelius: Lode Encoder: AI-constrained co-creativity. CoG 2021: 1-8

193. Philip Bontrager, Julian Togelius: Learning to Generate Levels From Nothing. CoG 2021: 1-8

194. Sam Earle, Maria Edwards, Ahmed Khalifa, Philip Bontrager, Julian Togelius: Learning Controllable Content Generators. CoG 2021: 1-9

195. Sam Earle, Julian Togelius, Lisa B. Soros: Video Games as a Testbed for Open-Ended Phenomena. CoG 2021: 1-9

196. Omar Delarosa, Hang Dong, Mindy Ruan, Ahmed Khalifa, Julian Togelius: Mixed-Initiative Level Design with RL Brush. EvoMUSART 2021: 412-426

197. Michael Cerny Green, Ahmed Khalifa, Rodrigo Canaan, Philip Bontrager, Julian Togelius: Game Mechanic Alignment Theory. FDG 2021: 29:1-29:11

198. Tae Jong Choi, Julian Togelius: Self-referential quality diversity through differential MAP-Elites. GECCO 2021: 502-509

199. Jordan Urbaczek, Razieh L. Saremi, Mostaan Lotfalian Saremi, Julian Togelius: Greedy Scheduling: A Neural Network Method to Reduce Task Failure in Software Crowdsourcing. ICEIS (1) 2021: 410-419

200. M Charity, Julian Togelius: Aesthetic Bot: Interactively Evolving Game Maps on Twitter. AIIDE 2022: 18-25

201. M Charity, Nasir D. Memon, Zehua Jiang, Abhi Sen, Julian Togelius: Diversity and Novelty MasterPrints: Generating Multiple DeepMasterPrints for Increased User Coverage. BIOSIG 2022: 221-228

202. Michael Cerny Green, Ahmed Khalifa, Megan Charity, Debosmita Bhaumik, Julian Togelius: Predicting Personas Using Mechanic Frequencies and Game State Traces. CEC 2022: 1-8

203. Megan Charity, Julian Togelius: Keke AI Competition: Solving puzzle levels in a dynamically changing mechanic space. CoG 2022: 570-575

204. Michael Cerny Green, Ahmed Khalifa, Megan Charity, Julian Togelius: Persona-driven Dominant/Submissive Map (PDSM) Generation for Tutorials. FDG 2022: 35:1-35:10

205. Alberto Alvarez, José M. Font, Julian Togelius: Story Designer: Towards a Mixed-Initiative Tool to Create Narrative Structures. FDG 2022: 42:1-42:9

206. Christoph Salge, Claus Aranha, Adrian Brightmoore, Sean Butler, Rodrigo De Moura Canaan, Michael Cook, Michael Cerny Green, Hagen Fischer, Christian Guckelsberger, Jupiter Hadley, Jean-Baptiste Hervé, Mark R. Johnson, Quinn Kybartas, David Mason, Mike Preuss, Tristan Smith, Ruck Thawonmas, Julian Togelius: Impressions of the GDMC AI Settlement Generation Challenge in Minecraft. FDG 2022: 45:1-45:16

207. Ahmed Khalifa, Julian Togelius, Michael Cerny Green: Mutation Models: Learning to Generate Levels by Imitating Evolution. FDG 2022: 67:1-67:9

208. Zehua Jiang, Sam Earle, Michael Cerny Green, Julian Togelius: Learning Controllable 3D Level Generators. FDG 2022: 71:1-71:9

209. Sam Earle, Justin Snider, Matthew C. Fontaine, Stefanos Nikolaidis, Julian Togelius: Illuminating diverse neural cellular automata for level generation. GECCO 2022: 68-76

210. Bryon Tjanaka, Matthew C. Fontaine, Julian Togelius, Stefanos Nikolaidis: Approximating gradients for differentiable quality diversity in reinforcement learning. GECCO 2022: 1102-1111

211. Razieh Saremi, Hardik Yardik, Julian Togelius, Ye Yang, Guenther Ruhe: An Evolutionary Algorithm for Task Scheduling in Crowdsourced Software Development. ICEIS (1) 2022: 120-128

212. Anubhav Jain, Nasir D. Memon, Julian Togelius: A Dataless FaceSwap Detection Approach Using Synthetic Images. IJCB 2022: 1-7

213. Ya-Chuan Hsu, Matthew C. Fontaine, Sam Earle, Maria Edwards, Julian Togelius, Stefanos Nikolaidis: Generating Diverse Indoor Furniture Arrangements. SIGGRAPH Posters 2022: 60:1-60:2

214. Matthew Siper, Ahmed Khalifa, Julian Togelius: Path of Destruction: Learning an Iterative Level Generator Using a Small Dataset. SSCI 2022: 337-343

215. Timothy Merino, Roman Negri, Dipika Rajesh, Megan Charity, Julian Togelius: The Five-Dollar Model: Generating Game Maps and Sprites from Sentence Embeddings. AIIDE 2023: 107-115

216. Yangkun Chen, Joseph Suarez, Junjie Zhang, Chenghui Yu, Bo Wu, Hanmo Chen, Hengman Zhu, Rui Du, Shanliang Qian, Shuai Liu, Weijun Hong, Jinke He, Yibing Zhang, Liang Zhao, Clare Zhu, Julian Togelius, Sharada P. Mohanty, Jiaxin Chen, Xiu Li, Xiaolong Zhu, Phillip Isola: Benchmarking Robustness and Generalization in Multi-Agent Systems: A Case Study on Neural MMO. AAMAS 2023: 2490-2492

217. Shuo Huang, Chengpeng Hu, Julian Togelius, Jialin Liu: Generating Redstone Style Cities in Minecraft. CoG 2023: 1-4

218. Muhammad Umair Nasir, Julian Togelius: Practical PCG Through Large Language Models. CoG 2023: 1-4

219. Matthew Siper, Sam Earle, Zehua Jiang, Ahmed Khalifa, Julian Togelius: Controllable Path of Destruction. CoG 2023: 1-8

220. Pittawat Taveekitworachai, Febri Abdullah, Mury F. Dewantoro, Ruck Thawonmas, Julian Togelius, Jochen Renz: ChatGPT4PCG Competition: Character-like Level Generation for Science Birds. CoG 2023: 1-8

221. Debosmita Bhaumik, Julian Togelius, Georgios N. Yannakakis, Ahmed Khalifa: Lode Enhancer: Level Co-creation Through Scaling. FDG 2023: 65:1-65:8

222. Timothy Merino, Megan Charity, Julian Togelius: Interactive Latent Variable Evolution for the Generation of Minecraft Structures. FDG 2023: 67:1-67:8

223. Graham Todd, Sam Earle, Muhammad Umair Nasir, Michael Cerny Green, Julian Togelius: Level Generation Through Large Language Models. FDG 2023: 70:1-70:8

224. Anubhav Jain, Nasir D. Memon, Julian Togelius: Zero-Shot Racially Balanced Dataset Generation using an Existing Biased StyleGAN2. IJCB 2023: 1-18

225. Sam Earle, Filippos Kokkinos, Yuhe Nie, Julian Togelius, Roberta Raileanu: DreamCraft: Text-Guided Generation of Functional 3D Environments in Minecraft. FDG 2024: 17

226. Asad Anjum, Yuting Li, Noelle Law, Megan Charity, Julian Togelius: The Ink Splotch Effect: A Case Study on ChatGPT as a Co-Creative Game Designer. FDG 2024: 18

227. Muhammad Umair Nasir, Sam Earle, Julian Togelius, Steven James, Christopher W. Cleghorn: LLMatic: Neural Architecture Search Via Large Language Models And Quality Diversity Optimization. GECCO 2024

228. Sudipta Banerjee, Anubhav Jain, Zehua Jiang, Nasir D. Memon, Julian Togelius, Arun Ross: Alpha-Wolves and Alpha-mammals: Exploring Dictionary Attacks on Iris Recognition Systems. WACV 2024: 1072-1081

229. Graham Todd, Tim Merino, Sam Earle, Julian Togelius: Missed Connections: Lateral Thinking Puzzles for Large Language Models. CoG 2024: 1-8

230. Pittawat Taveekitworachai, Febri Abdullah, Mury F. Dewantoro, Yi Xia, Pratch Suntichaikul, Ruck Thawonmas, Julian Togelius, Jochen Renz: ChatGPT4PCG 2 Competition: Prompt Engineering for Science Birds Level Generation. CoG 2024: 1-8

231. Sam Earle, Zehua Jiang, Julian Togelius: Scaling, Control and Generalization in Reinforcement Learning Level Generators. CoG 2024: 1-8

232. Megan Charity, Sam Earle, Dipika Rajesh, Mayu Wilson, Julian Togelius: Amorphous Fortress: Exploring Emergent Behavior and Complexity in Multi-Agent 0-Player Games. CEC 2024: 1-10

233. Tim Merino, Sam Earle, Ryan Sudhakaran, Shyam Sudhakaran, Julian Togelius: Making New Connections: LLMs as Puzzle Generators for the New York Times' Connections Word Game. AIIDE 2024: 87-96

234. Muhammad Umair Nasir, Steven James, Julian Togelius: GameTraversalBenchmark: Evaluating Planning Abilities Of Large Language Models Through Traversing 2D Game Maps. NeurIPS 2024.

235. Graham Todd, Alexander Padula, Matthew Stephenson, Éric Piette, Dennis J. N. J. Soemers, Julian Togelius: GAVEL: Generating Games Via Evolution and Language Models. NeurIPS 2024.

236. Yuhe Nie, Michael Middleton, Tim Merino, Nidhushan Kanagaraja, Ashutosh Kumar, Zhan Zhuang, Julian Togelius: Moonshine: Distilling Game Content Generators into Steerable Generative Models. AAAI 2025.

14.6 Conference acronyms and statistics

Conference name	acronym	acceptance	h-5	CORE	papers
IEEE Conference on Games	CoG/CIG	40%	25	C	63
ACM Foundations on Digital Games	FDG	37%	21	C	27
Artificial Intelligence in Interactive Digital Entertainment	AIIDE	25%	21	-	20
Genetic and Evolutionary Computation	GECCO	35%	36	A	18
IEEE Congress on Evolutionary Computation	CEC	57%	68	B	21
Parallel Problem Solving from Nature	PPSN	38%	19	A	2
Intelligent User Interfaces	IUI	14%	27	A	1
Applications of Evolutionary Computation	EvoApps	31%	?	B	16
International Conference on Computational Creativity	ICCC	49%		-	6
International Joint Conference on Artificial Intelligence	IJCAI	12.6%	67	A*	2
Autonomous Agents and Multi-Agent Systems	AAMAS	24.6%	39	A*	2
AAAI Conference on Artificial Intelligence	AAAI	23.4%	220	A*	2
Pacific-Asia Conference on KDD	PAKDD	24.1%	23	A	1
International Joint Conference on Neural Networks	IJCNN	52.4%	36	A	2
International Conference on Biometrics	BTAS	36%	19	-	1
International Joint Conference on Biometrics	IJCB	36%	-	B	1
Computer-Human Interaction in Play	CHI PLAY	26%	24	-	1
European Conference on Artificial Intelligence	ECAI	20.5%	26	A	1
Conference of the Biometrics Special Interest Group	BIOSIG	32%	-	-	1
Workshop on Applications of Computer Vision	WACV	40%	109	A	1
Conference on Enterprise Information Systems	ICEIS	25%	-	-	2
Neural Information Processing Systems	NeurIPS	25%	337	A*	2

Notes: Acceptance ratio is the most recent figure I could find, and generally changes somewhat between years. IEEE Conference on Games is the new name of IEEE Conference on Computational Intelligence and AI in Games, since 2018.

14.7 Peer-reviewed workshop papers

Underlined names are students under my supervision, either as primary or secondary advisor.

Paper 18 and onwards are mainly based on work done at NYU.

1. Julian Togelius, Renzo De Nardi and Simon M. Lucas (2006): *Making racing fun through player modeling and track evolution.* SAB Workshop on Adaptive Approaches to Optimizing Player Satisfaction.

2. Julian Togelius and Juergen Schmidhuber (2008): *Computational Intelligence and Game Design.* PPSN Workshop on Computational Intelligence and Games.

3. Lawrence Johnson, Georgios N. Yannakakis and Julian Togelius (2010): *Cellular automata for real-time generation of infinite cave levels*. FDG workshop on Procedural Content Generation.

4. Julian Togelius, Mike Preuss and Georgios N. Yannakakis (2010): *Towards multiobjective procedural map Generation*. FDG workshop on Procedural Content Generation.

5. Isaac Dart, Gabriele Di Rossi and Julian Togelius (2011): *SpeedRock: Procedural rocks through grammar and evolution*. FDG Workshop on Procedural Content Generation.

6. Julian Togelius, Emil Kastbjerg, David Schedl, Georgios N. Yannakakis (2011): *What is procedural content generation? Mario on the borderline*. FDG Workshop on Procedural Content Generation.

7. Steve Dahlskog and Julian Togelius (2012): *Patterns and Procedural Content Generation*. FDG Workshop on Design Patterns in Games (DPG).

8. Julian Togelius, Trondur Justinussen and Anders Hartzen (2012): *Compositional Procedural Content Generation*. FDG Workshop on Procedural Content Generation (PCG).

9. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2012): *Limitations of Choice-Based Interactive Evolution for Game Level Design*. AIIDE Workshop on Human Computation in Interactive Digital Entertainment.

10. Antonios Liapis, Georgios N. Yannakakis and Julian Togelius (2013): Designer Modeling for Personalized Game Content Creation Tools. AI and Game Aesthetics Workshop at AIIDE.

11. Marie Gustafsson Friberger, Julian Togelius, Andrew Borg Cardona, Michele Ermacora, Anders Mousten, Martin Moller Jensen, Virgil-Alexandru Tanase and Ulrik Brondsted (2013): Data Games. Procedural Content Generation Workshop at FDG.

12. Steve Dahlskog and Julian Togelius (2013): Patterns as Objectives for Level Generation. Workshop on Design Patterns in Games at FDG.

13. Julian Togelius, Mark J. Nelson and Antonios Liapis (2014): Characteristics of Generatable Games. Procedural Content Generation Workshop at FDG.

14. Michael Cook, Gillian Smith, Tommy Thompson, Julian Togelius and Alexander Zook (2015): Hackademics: A Case for Game Jams At Academic Conferences. FDG Workshop on Game Jams, Hackathons and Game Creation Events.

15. Aaron Isaken, Dan Gopstein, Julian Togelius and Andy Nealen (2015): Discovering Unique Game Variants. ICCC Workshop on Computational Creativity and Games.

16. Amy K. Hoover, Julian Togelius and Georgios N. Yannakakis (2015): Composing Video Game Levels with Music Metaphors through Functional Scaffolding. ICCC Workshop on Computational Creativity and Games.

17. Christoffer Holmgard, Antonios Liapis, Julian Togelius and Georgios N. Yannakakis (2015): Monte-Carlo Tree Search for Persona Based Player Modeling. AIIDE Workshop on Player Modeling.

18. Aaron Isaksen, Julian Togelius, Frank Lantz and Andy Nealen (2016): Playing Games Across the Superintelligence Divide. AAAI Workshop on AI, Ethics and Society.

19. Rishabh Jain, Aaron Isaksen, Christoffer Holmgard and Julian Togelius (2016): Autoencoders for Level Generation, Repair, and Recognition. ICCC Workshop on Computational Creativity and Games.

20. Tiago Machado, Ivan Bravi, Zhu Wang, Andy Nealen and Julian Togelius (2016): Shopping for Game Mechanics. FDG Workshop on Procedural Content Generation.

21. Scott Lee, Aaron Isaksen, Christoffer Holmgard and Julian Togelius (2016): Predicting Resource Locations in Game Maps Using Deep Convolutional Neural Networks. EXAG Workshop at AIIDE.

22. Fernando de Mesentier Silva, Scott Lee, Julian Togelius and Andy Nealen (2017): AI as Evaluator: Search Driven Playtesting of Modern Board Games

23. Benedikte Mikkelsen, Christoffer Holmgard and Julian Togelius (2017): Ethical Considerations for Player Modeling. AAAI WNAIG workshop.

24. Frank Lantz, Aaron Isaksen, Alexander Jaffe, Andy Nealen and Julian Togelius (2017): Depth in Strategic Games. AAAI WNAIG workshop.

25. Tiago Machado, Andy Nealen and Julian Togelius (2017): CICERO: Computationally Intelligent Collaborative EnviROnment for game and level design. CCGW workshop at ICCC.

26. Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros and Julian Togelius (2017): "Press Space To Fire": Automatic Video Game Tutorial Generation. EXAG workshop at AIIDE.

27. Ahmed Khalifa and Julian Togelius (2017): Marahel: A Language for Constructive Level Generation. EXAG workshop at AIIDE.

28. Cinjon Resnick, Wes Eldridge, David Ha, Denny Britz, Jakob Foerster, Julian Togelius, Kyunghyun Cho, Joan Bruna (2018): Pommerman: A Multi-Agent Playground. Workshops at AIIDE.

29. Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Andy Nealen, Julian Togelius (2018): Generating levels that teach mechanics. PCG workshop at FDG.

30. Tiago Machado, Daniel Gopstein, Andy Nealen, Julian Togelius (2019): Kwiri - What, When, Where and Who: Everything You Ever Wanted to Know About Your Game But Didn't Know How to Ask. KEG@AAAI: 43-50

31. Michael Cerny Green, Christoph Salge, Julian Togelius (2019): Organic building generation in minecraft. FDG Workshop on Procedural Content Generation: 80:1-80:7

32. Michael Cerny Green, Ahmed Khalifa, Athoug Alsoughayer, Divyesh Surana, Antonios Liapis, Julian Togelius (2019): Two-step constructive approaches for dungeon generation. FDG Workshop on Procedural Content Generation: 84:1-84:7

14.8 Book chapters (except chapters in my own books)

1. Julian Togelius, Simon M. Lucas and Renzo De Nardi (2007): Computational Intelligence in Racing Games. In Norio Baba, Lakhmi Jain and Hisashi Handa (eds.): Intelligent Design Paradigms in Computer Games. Springer.

2. Julian Togelius, Georgios N. Yannakakis, Noor Shaker and Sergey Karakovskiy (2013): *Assessing Believability*. In Phil Hingston (ed): Believable Bots. Springer.

3. Anders Drachen, Christian Thurau, Julian Togelius, Georgios N. Yannakakis and Christian Bauckhage (2013): *Game Data Mining*. In Magy Seif El-Nasr, Anders Drachen and Alessandro Canossa: Game Analytics. Springer.

4. Julian Togelius, Ahmed Khalifa, Sam Earle, Michael Cerny Green, Lisa Soros (2024): Evolutionary Machine Learning and Games. In Wolfgang Banzhaf, Penousal Machado, Mengjie Zhang: Handbook of Evolutionary Machine Learning. Springer.