



Daniele Gravina

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Address

San Gwann, Malta

Daniele Gravina

PhD Student

Education

2016 - 2019, PhD Student, Institute of Digital Games, University of Malta

Major Topic: Searching for the Unexpected: Evolution through Surprise

2012-2015, Politecnico di Milano

MS in Computer Science, Thesis: Procedural Weapons Generation for Unreal Tournament III

2009-2012, Politecnico di Milano

BS in Computer Science, Third Year Project: Board game implementation in Java.

Courses

2018, SYNERGY Summer School in Ljubljana, Slovenia

Topic: Efficient Multi-Objective Optimisation

2017, S3 Summer school in Berlin, Germany

Topic: Evolutionary Computation

Experience

April 2013 - June 2013, Lab Tutor, Politecnico di Milano

Lab Tutor within the course "Software Engineering" at Politecnico di Milano.

Communication Skills

2017, Oral Presentation, ACM GECCO 2017

"Coupling Novelty and Surprise for Evolutionary Divergence".

2016, Oral Presentation, IEEE CIG 2016

"Constrained Surprise Search for Content Generation".

Software Development Skills

Programming

- Java
- C++
- C#
- Python

Computer Software

- MySQL
- Keras
- Android
- LaTeX
- Unity3D

Interests

Professional

My main research interests lie in the areas of computational intelligence, evolutionary computation, and automated game design.



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Publications

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Quality Diversity Through Surprise"

in arXiv preprint arXiv:1807.02397 (2018).

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Fusing Novelty and Surprise for Evolving Robot Morphologies"

in Proceedings of the Genetic and Evolutionary Computation Conference. ACM, 2018.

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Surprise Search for Evolutionary Divergence"

in arXiv preprint arXiv:1706.02556, 2017.

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Coupling Novelty and Surprise for Evolutionary Divergence"

in Proceedings of the Genetic and Evolutionary Computation Conference. ACM, 2017.

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Exploring Divergence in Soft Robot Evolution"

in Proceedings of the Genetic and Evolutionary Computation Conference Companion. ACM, 2017.

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Constrained Surprise Search for Content Generation"

in Proceedings of the IEEE Conference on Computational Intelligence and Games (CIG), 2016.

Daniele Gravina, Antonios Liapis and Georgios N. Yannakakis: "Surprise Search: Beyond Objectives and Novelty"

in Proceedings of the Genetic and Evolutionary Computation Conference. ACM, 2016.

Daniele Gravina, Daniele Loiacono: "Procedural weapon generation for unreal tournament III"

in Proceedings of Games Entertainment Media Conference (GEM), 2015, IEEE.

Academic Work

Lecturing

In Professor's Georgios N. Yanakkakis course "Game AI" course:

- Weekly Supervision of MSc project work
- Lecture on Evolutionary Computation
- Tutorial on Evolutionary Computation
- Tutorial on Monte Carlo Tree Search

In Professor's Georgios N. Yanakkakis course "Data Mining and Game Analytics" course:

- Weekly Supervision of MSc project work
- Tutorial on Preprocessing
- Tutorial on Clustering
- Tutorial on Classification

Reviewing

- IEEE Conference on Computational Intelligence and Games
- IEEE Transactions on Computational Intelligence and Games
- IEEE Transactions on Games
- International Conference on The Foundations of Digital Games



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References

First reference (PhD supervisor)

Name: Prof. Georgios N. Yannakakis

University: University of Malta

Position: Professor and Director of the Institute of Digital Games

e-mail: georgios.yannakakis@um.edu.mt

Second reference (PhD supervisor)

Name: Dr. Antonios Liapis

University: University of Malta

Position: Lecturer in Procedural Content Generation, Computational Creativity, and Game Development at the Institute of Digital Games

e-mail: antonios.liapis@um.edu.mt

Third reference (Master's Thesis supervisor)

Name: Dr. Daniele Loiacono

University: Politecnico di Milano

Position: Assistant Professor

e-mail: daniele.loiacono@polimi.it