Georgios Methenitis

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Curriculum Vitæ

Work Experience

Oct. 2019 ~ Current
MLP (Open GI Group), Senior Data Scientist
- *Working on machine learning applications for the UK insurance market to optimize brokers' decision-making.*

Jun. 2014 ~ Sep. 2014
European Space Agency, Internship
- *Worked in the Advanced Concepts Team on the project "Novelty Search for Soft Robotic Space Exploration".*
- *Applied novel evolutionary search methods (novelty search) for optimizing the morphology and gaits of soft-robots in varying gravity levels (video).*

Jan. 2013 ~ Mar. 2014
Dutch Nao Team (robotic soccer team), Lead Programmer
- *Developed existed C++ codebase for the* Aldebaran NAO *robot and the Standard Platform League, focusing on robot localization, team strategy and player behavior.*
- *Participated (placed in top-16 and 3rd) in international and open* Robocup Standard Platform League *competitions.*

Oct. 2013 ~ Feb. 2014
University of Amsterdam, Teaching Assistant
- *Assisted in teaching the course* C++ programming language.

Oct. 2013 ~ Feb. 2014
VicarVision (computer vision company), Internship
- *Designed and developed an algorithm (in C# using OpenCV libraries) for estimating floor plane from monocular camera footage based on human detection samples.*
- *The resulted algorithm was able to determine the floor boundaries and the relative position of the floor plane in the three-dimensional space with regards to the camera placement.*

Education

Feb. 2015 ~ Aug. 2019
PhD Artificial Intelligence - Delft University of Technology & CWI [1]
- *Research on artificial intelligence methods in energy systems focusing on multi-agent systems, game theory and mechanism design, supervised by: Prof. Han La Poutré (CWI & TU Delft) and Dr. Michael Kaisers (Researcher, CWI).*
- *Courses on deep learning (MSc course at the University of Amsterdam), European agent systems summer school, algorithmic game theory, non-cooperative games, stochastic optimization, entrepreneurship in mathematics and computer science, and several doctoral-level education workshops.*
- *Expected graduation in April 2020.*

Sep. 2012 ~ Dec. 2014
MSc Artificial Intelligence - University of Amsterdam
- *Courses on machine learning (pattern recognition), neural networks, autonomous agents (reinforcement learning, multi-agent learning), natural language processing, computer vision, and information retrieval.*
- *Thesis project on the Evolution of Soft-Robots by Novelty Search, in collaboration with the Advanced Concepts Team in the European Space Agency (ESA), supervised by: Daniel Hennes (ESA), Dario Izzo (ESA) and Arnoud Visser (UvA), grade:* ***9****/10.*

Sep. 2006 ~ Aug. 2012
Diploma in Electronic and Computer Engineering [2] - Technical University of Crete
- *Courses on software programming, algorithms and complexity, mathematics, probability theory, computer vision, signal processing, artificial intelligence, theory of computation, operating systems, and databases.*
- *Thesis project on Player Behavior and Team Strategy for the RoboCup 3D Simulation League, supervised by: Prof. Michael G. Lagoudakis. I developed all the necessary software modules (in Java) for robot localization, biped locomotion, communication, team strategy, and coordination, grade:* ***10****/10.*

Interests

- Machine learning and reinforcement learning for autonomous system applications (decision support systems)
- Multi-agent system applications in both competitive and cooperative settings
- Game theoretical analysis and mechanism design for retail pricing mechanisms and auctions
- Evolutionary algorithms (fitness-based or behavior-based, e.g., novelty search) for hyper-parameter or fitness optimization

Technical Skills

Programming
Python (Tensorflow, NumPy, scikit-learn, pandas, seaborn), C/C++ (Boost, OpenCV, Qt, CMake), Java, C#, Matlab, HTML/CSS

Tools/IDEs
Git, Jupyter Notebook, Atom, PyCharm, Eclipse, NetBeans, Qt Creator

OS
GNU/Linux (Arch, Debian), MS Windows, MacOS

Robot platforms
Experience with robotic simulators and platforms, such as Webots, Spark, Aldebaran NAO, Sony AIBO

Research Publications

1. Georgios Methenitis, Michael Kaisers, and Han La Poutré. **Forecast-Based Mechanisms for Demand Response**. In: *Proceedings of the 18th International Conference on Autonomous Agents and MultiAgent Systems*. AAMAS '19. Montreal QC, Canada: IFAAMAS, 2019
2. Georgios Methenitis, Michael Kaisers, and Han La Poutré. **Degrees of Rationality in Agent-Based Retail Markets**. In: *Computational Economics* (2019)
3. Georgios Methenitis, Michael Kaisers, and Han La Poutré. **Renewable electricity trading through SLAs**. In: *Energy Informatics* 1.1 (2018)
4. Georgios Methenitis, Michael Kaisers, and Han La Poutré. **SLA-Mechanisms for Electricity Trading Under Volatile Supply and Varying Criticality of Demand**. In: *Proceedings of the 16th Conference on Autonomous Agents and MultiAgent Systems*. AAMAS '17. Sao Paulo, Brazil: IFAAMAS, 2017

[1] CWI (Centrum Wiskunde & Informatica) is the national research institute for mathematics and computer science in the Netherlands.
[2] 5-year diploma: comparable with attending both BSc and MSc programmes (EQF 7).

5. Georgios Methenitis, Michael Kaisers, and Han La Poutré. **Incentivizing Intelligent Customer Behavior in Smart-Grids: A Risk-Sharing Tariff & Optimal Strategies**. In: *Proceedings of the 25th International Joint Conference on Artificial Intelligence, IJCAI*. AAAI Press. 2016
6. Georgios Methenitis, Michael Kaisers, and Han La Poutre. **A multi-scale energy demand model suggests sharing market risks with intelligent energy cooperatives**. In: *Smart Grid Technologies - Asia (ISGT ASIA)*. IEEE. 2015
7. Georgios Methenitis, Daniel Hennes, Dario Izzo, and Arnoud Visser. **Novelty Search for Soft Robotic Space Exploration**. In: *Proceedings of the 2015 Annual Conference on Genetic and Evolutionary Computation*. GECCO '15. Madrid, Spain: ACM, 2015
8. Georgios Methenitis, Patrick M de Kok, Sander Nugteren, and Arnoud Visser. **Orientation finding using a grid based visual compass**. In: BNAIC, 2013