Stelios Stavroulakis

(949) 561-2575 | steliostavroulakis@gmail.com | *steliostavroulakis.github.io*

SUMMARY

Leveraging data to make intelligent decisions. Specialized in reinforcement learning theory and applications, combinatorial optimization and algorithms. Research interests revolve around multi-agent reinforcement learning and game theory. US citizen.

TECHNICAL STRENGTHS

ML Frameworks:	PyTorch, Keras, TensorFlow, Sci-Kit Learn, OpenCV
RL Frameworks:	RLlib, PettingZoo, OpenSpiel, Gym
Programming:	Python, Julia, GCP, Docker, Git, Unity3D, MATLAB, C, Java
Skills:	Reinforcement Learning, Optimization, Algorithms, Game Theory, Probability and Statistics, Neural Networks (GNNs, RNNs, ConvNets), Linear Regression/Classification, SVMs, K-Means, PCA

EDUCATION

PhD in Computer Science
University of California, Irvine, Irvine, CA, USA
September 2021 - Present

Research:	Multi-Agent Reinforcement Learning
Courses:	Reinforcement Learning, Optimization, Machine Learning
Advisor:	Ioannis Panageas

MS in Computer Engineering
University of California, Irvine, Irvine, CA, USA
September 2019 - June 2022

Research:	Privacy-Preserving Reinforcement Learning
Courses:	Algorithms, Network Science, High-Performance Computing
Thesis:	Computing Nash Equilibria in Adversarial Stochastic Team Games

Master of Engineering in Electrical Engineering and Computer Science
National Technical University of Athens, Athens, Greece
October 2010 - June 2019

Major:	Computer Systems - Electronics, Circuits, Materials,
Minor:	Electromagnetic Waves and Telecommunication, Bioengineering
Thesis:	Deep Reinforcement Learning methods to solve the Rubik's Cube

WORK EXPERIENCE

Machine Learning Engineer
Zebra Technologies, Lincolnshire, IL, USA
June 2022 - Oct 2022

– Design and implementation of multi-agent RL with size/permutation-invariant inputs.
– Responsibilities include environment design, reward shaping, and implementation of techniques to circumvent combinatorial action spaces.

Data Science and Reinforcement Learning Intern
Zebra Technologies, Lincolnshire, IL, USA
June 2021 - Oct 2021

– Created custom multi-agent OpenAI Gym environments and algorithms for Orchestration as a Service (OaaS) solutions, allowing the Core ML department to formulate computationally intractable problems in an efficient and decentralized manner.
– Won the internal annual innovation award competition out of 150 interns for proposing and prototyping a pathfinding application for Zebra's market expansion.

Research Intern - Software Engineer
Pacific Northwest National Laboratory, Richland, WA, USA
June 2020 - August 2021

– Reduced the action space of a power-grid RL controller by an order of magnitude to augment the development of deep reinforcement learning-based real-time emergency control algorithms.

Software Engineering Intern
RedLink, Santa Clara, CA, USA
June 2015 - August 2015

– Designed syntactic and word-sense disambiguation algorithms in Java, resulting in the creation of the RedLink Network database.

Publications

Reinforcement Learning for Location-Aware Scheduling
S. Stavroulakis and B. Sengupta
Generalizable Policy Learning in the Physical World workshop **ICLR 2022**.

adaPARL: Adaptive Privacy-Aware Reinforcement Learning for Human-in-the-Loop Systems
M. Taherisadr, S. Stavroulakis and S. Elmalaki - SenSys 2022 (under review)

On Scrambling Phenomena for Randomly Initialized Recurrent Networks
V. Chatziafratis, I. Panageas, C. Sanford and S. Stavroulakis - **NeurIPS 2022**

Efficiently Computing Nash equilibria in Adversarial Stochastic Team Games
F. Kalogiannis, I. Anagnostides, I. Panageas, S. Stavroulakis,
E.V. Vlatakis, V. Chatziafratis (under review)

Teaching

Teaching Assistant, CS 161 Design and Analysis of Algorithms, Spring 2022.
Teaching Assistant, CS 268P Optimization Modeling, Fall 2022.

Other Experience

Visiting Graduate Student
Simons Institute for the Theory of Computing, Berkeley, CA, USA
January 2022 - May 2022

– Learning and Games Program

Visiting Student
McGovern Institute for Brain Research, MIT, Boston, MA, USA
June 2013 - August 2013

– Conducted MEG data analysis with an orthogonalized signals approach.
– Displayed large-scale cortical correlation structure of spontaneous oscillatory activity.

Honors and Awards

2022–2025 Summer Program Participant Fellowship, UCI
2022 Gerondelis Fellowship
2019–2020 Computer Engineering Fellowship, UCI
2017 4^{th} place, IEEE Signal Processing Cup 2017: Real-Time Beat Tracking Challenge

Other Interests

Drone Photographer, Lifeguard, Salsa Instructor, Footvolley Athlete