

Stelios Stavroulakis

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Summary

Leveraging data to make intelligent decisions. Experience 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, TensorFlow, Keras, RLlib (PPO, TPRO, MADDPG)

Programming: Python (Numpy, Scipy, Pandas, OpenCV), Git, GCP, Docker, MATLAB, Unity3D, MongoDB, C, Java

Skills: Reinforcement Learning, Linear Regression, K-Means, SVMs, Graph Neural Networks, PCA

Education

University of California, Irvine

Sep 2021 - present

PHD IN COMPUTER SCIENCE

- Research: Multi-Agent Reinforcement Learning
- Selected Coursework: Algorithms, Game Theory, Reinforcement Learning, Machine Learning

University of California, Irvine

Sep 2019 - Jun 2022 (expected)

MS IN ELECTRICAL AND COMPUTER ENGINEERING

- Research: Privacy-Preserving Reinforcement Learning / Reinforcement Learning for Ad-Blocking

National Technical University of Athens

Oct 2010 - Jul 2019

MASTER OF ENGINEERING IN ELECTRICAL AND COMPUTER ENGINEERING (MENG-ECE)

- GPA ~9/10 - top 3%
- Diploma Thesis: Deep Reinforcement Learning methods to solve the Rubik's Cube

Work Experience

Zebra Technologies

Remote, CA | Jun 2021 - Oct 2021

DATA SCIENCE AND REINFORCEMENT LEARNING INTERN

- Created custom OpenAI Gym environments for Orchestration as a Service (OaaS) solutions.
- Built a novel multi-agent reinforcement learning algorithm for cooperative task orchestration (MADDPG, DeepRM)
- Won the internal annual innovation award competition, out of ~150 interns, for proposing and prototyping a pathfinding application for Zebra's market expansion.
- Offered an extension of the internship duration.

Pacific Northwest National Laboratory

Remote, CA | Summer 2020

RESEARCH INTERN - SOFTWARE ENGINEER

- Implemented sequence-to-sequence models with attention in python (pointer networks) trained on real power grid data in order to reduce the action space of RL agents and augment the development of adaptive deep reinforcement learning based real time emergency control algorithms.

RedLink

Santa Clara, CA | Summer 2015

SOFTWARE ENGINEERING INTERN

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

Three Halves

Athens, Greece | Oct 2013 - May 2014

SOFTWARE ENGINEERING INTERN

- Built a polyphonic music transcription software using signal processing techniques and Machine Learning. Developed low-level feature extraction, audio similarity clustering

Research

Donald Bren School of Information & Computer Science

Irvine, CA | **Sep 2021 - present**

GRADUATE STUDENT RESEARCHER

- Multi-Agent Reinforcement Learning
- Expressivity of Neural Networks

UCI Networking Group

Irvine, CA | **Sep 2019 - Sep 2021**

GRADUATE STUDENT RESEARCHER

- Automatic filter rule generation for ad blockers
- Privacy-preserving reinforcement learning in smart homes

Intelligent Systems Laboratory (Prof. Andreas Stafylopatis)

Athens, Greece | **Sep 2018 - Jul 2019**

REINFORCEMENT LEARNING RESEARCHER

- Implemented Policy Gradient methods to solve the Rubik's Cube.

Athena Research Center

Athens, Greece | **Sep 2016 - Jan 2017**

ALGORITHM DESIGNER FOR IEEE SIGNAL PROCESSING CUP COMPETITION

- Performed music tempo estimation using bidirectional long short-term memory (LSTM) neural networks.

MIT - McGovern Institute for Brain Research

Boston, MA | **Jun 2013 - Aug 2013**

VISITING ACADEMIC RESEARCHER

- Conducted MEG data analysis (of my own brain signals) with an orthogonalized signals approach.
- Displayed large-scale cortical correlation structure of spontaneous oscillatory activity.

Honors & Awards

- 2019 – 2020 UCI Computer Engineering Fellowship
- 2017 4th place, IEEE Signal Processing Cup 2017: Real-Time Beat Tracking Challenge
- 2013 Winner of 2013 Startup Weekend Athens

Other Interests

Drone Photography ([shutterstock.com/g/steliostavroulakis](https://www.shutterstock.com/g/steliostavroulakis)) | Salsa | Footvolley