

Changling Li

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“And now I see with eye serene, the very pulse of the machine.” – William Wordsworth

EDUCATION BACKGROUND

ETH Zurich, Switzerland <i>Master of Science in Computer Science, MSc</i> <ul style="list-style-type: none">Grade: 5.35/6Major: Machine Intelligence; Minor: Theoretical Computer science	09/2022 – Present
Colby College, United States <i>Bachelor of Arts, Physics and Computer Science with Honors</i> <ul style="list-style-type: none">GPA: 3.99/4Awards and Honors: Distinction in both majors; Magna Cum Laude; Phi Beta Kappa; Sigma Pi Sigma; UWC Davis Scholar; Dean's List F'18, S'19, F'19, F'21 (2020 and S'21 - cancelled due to COVID-19)	09/2018 – 05/2022
Li Po Chun United World College, Hong Kong <i>International Baccalaureate Bilingual Diploma : 41/45</i>	09/2016 – 06/2018

PUBLICATION

- Changling Li**, Ying Li, “Scaling up Energy-Aware Multi-Agent Reinforcement Learning for Mission-Oriented Drone Networks with Individual Reward.” IEEE Internet of Things Journal (2024).
- Changling Li**, Zhang-Wei Hong, Pulkit Agrawal, Divyansh Garg, and Joni Pajarinen. "ROER: Regularized Optimal Experience Replay." Reinforcement Learning Journal, vol. 4, 2024, pp. 1598–1618.
- Ying Li, **Changling Li**, Jiyao Chen, and Christine Roinou. “Energy-aware multi-agent reinforcement learning for collaborative execution in mission-oriented drone networks.” In 2022 International Conference on Computer Communications and Networks (ICCCN), pp. 1–9. IEEE, 2022.

SELECTED RESEARCH EXPERIENCE

Robot Morphology Design Automation <i>Supervisor: Zhang-Wei Hong & Prof. Joni Pajarinen</i> , Massachusetts Institute of Technology, Aalto University <ul style="list-style-type: none">Implemented the closed-loop generation and evaluation workflow.	08/2024 – Present
Regularized Optimal Experience Replay for Deep Reinforcement Learning <i>Supervisor: Zhang-Wei Hong & Prof. Pulkit Agrawal</i> , Massachusetts Institute of Technology, Aalto University <ul style="list-style-type: none">Derived the theoretical formulation involving occupancy optimization and Lagrangian duality.Implemented JAX-based Soft Actor-Critic RL with proposed experience replay formulation.Ran Large scale evaluation using MuJoCo and DM Control.Both oral and poster presentations at the Reinforcement Learning Conference in August 2024.	08/2023 – 04/2024
Towards a Ethical Framework to Resolve Conflicts in Multi-Agent Systems <i>Supervisor: Prof. Stacy A. Doore</i> , Colby College <ul style="list-style-type: none">Surveyed related literature in both machine learning and ethical theories.Proposed a framework for conflict resolution in multi-agent systems using ethical theories.Created a simulation case of a smart city for evaluating the framework.	02/2022 – 08/2022
Multi-Agent reinforcement learning for mission-oriented Drone Networks <i>Supervisor: Prof. Ying Li</i> , Colby College <ul style="list-style-type: none">Created an OpenAI gym based drone networks simulation environment.Implemented Pytorch-based DQN MARL for credit assignment exploration.Oral presentation at International Conference on Computer Communications and Networks in July 2022.Journal paper was accepted by IEEE Internet of Things Journal in 2024.	01/2021 – 02/2022

TEACHING EXPERIENCE

Department of Computer Science, Colby College <i>Teaching Assistant</i> <ul style="list-style-type: none">Courses include: CS 353 Interactive System; CS 251 Data Analysis and Visualization; CS 231 Data Structure and Algorithm; CS 152 Computational Thinking: Science; CS 151 Computational Thinking: Visual Media.	09/2019 – 05/2022
Department of Physics and Astronomy, Colby College <i>Teaching Assistant</i> <ul style="list-style-type: none">Courses include: PH 241 Modern Physics I; PH 242 Modern Physics II.	09/2019 – 05/2021

EXTRACURRICULAR SERVICE

3D Printer Instructor at WatervilleCreates!	09/2021 – 05/2022
Co-leader and Logistician for The Bridge (LGBTQIA+) Club at Colby College	02/2019 – 09/2021
Co-leader and Data Analyst for Coral Monitoring at Li Po Chun UWC	09/2016 – 06/2018