

# Changling Li

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## EDUCATION BACKGROUND

<b>ETH Zurich</b> <i>Master of Science in Computer Science, MSc</i>	09/2022 –
<b>Colby College</b> <i>Bachelor of Arts, Physics and Computer Science with Honors</i> <ul style="list-style-type: none"><li>Overall GPA: <b>3.99/4</b></li><li>Awards 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 - canceled due to COVID-19)</li></ul>	09/2018 – 05/2022

## PUBLICATIONS & POSTERS

- C. Li, Y. Li**, "Multi-Agent Reinforcement Learning for Mission-Oriented Drone Networks: Individual Reward vs Shared Reward," (Under Review).
- Changling Li**, Zhang-Wei Hong, Pulkit Agrawal, Divyansh Garg, and Joni Pajarinen. "ROER: Regularized Optimal Experience Replay." Reinforcement Learning Journal, vol. 1, no. 1, 2024, pp. TBD.
- Li, Y., **Li, C.**, Chen, J., & Roinou, C. (2022, July). 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

## RESEARCH EXPERIENCES

<b>Reweighting Experience in Deep Reinforcement Learning</b> <i>Supervisor: Zhang-Wei Hong, Massachusetts Institute of Technology</i> <ul style="list-style-type: none"><li>Derived theoretical formulation of the new prioritized scheme.</li><li>Conducted large scale evaluation for empirical proof.</li><li>Conference paper was accepted by RLC and presented in August 2024.</li></ul>	08/2023 – 02/2024
<b>Towards a Framework to Deal with Ethical Issues and Resolve Conflicts in Multi-Agent Systems</b> <i>Supervisor: Prof. Stacy A. Doore, Colby College</i> <ul style="list-style-type: none"><li>Reviewed related literature and studied various ethical theories.</li><li>Developed a framework that incorporates human-in-the-loop and ethical judgment for conflict resolution in MAS.</li><li>Created a simulation case of smart city and evaluated the framework on the case study.</li></ul>	02/2022 – 08/2022
<b>Multi-Agent Reinforcement Learning for Collaborative Task Execution in Mission-Oriented Drone Networks</b> <i>Supervisor: Prof. Ying Li, Colby College</i> <ul style="list-style-type: none"><li>Created a scalable simulation environment for drone networks.</li><li>Created DQN network with both shared reward and individual reward for study of credit assignment.</li><li>Presented academic poster at 2021 Colby College Undergraduate Research Retreat.</li><li>Conference paper was accepted by ICCCN and presented in July 2022.</li></ul>	01/2021 – 02/2022
<b>Incorporate AI in Art Creation: Random Drawing Generation with Recurrent Neural Network</b> <i>Supervisor: Prof. Hannen Wolfe, Colby College</i> <ul style="list-style-type: none"><li>Created core workflow for data processing and visualization to investigate the correlation between eye focusing and drawing.</li><li>Modified LSTM neural network and implemented poly-simplification algorithm to improve training efficiency.</li><li>This project will be employed as a teaching tool in Colby College Art Department.</li></ul>	01/2020 – 05/2021

## TEACHING EXPERIENCES

<b>Department of Computer Science, Colby College</b> <i>Teaching Assistant</i> <ul style="list-style-type: none"><li>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.</li></ul>	09/2019 – 05/2022
<b>Department of Physics and Astronomy, Colby College</b> <i>Teaching Assistant</i> <ul style="list-style-type: none"><li>Courses include: PH 241 Modern Physics I; PH 242 Modern Physics II.</li></ul>	09/2019 – 05/2021

## SERVICES

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