# Amber Li

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## Education

**Massachusetts Institute of Technology**                                Cambridge, MA
M.Eng. in Electrical Engineering and Computer Science. GPA 5.0/5.0          Feb 2022 – Feb 2023
Thesis: Embodied Active Learning of Relational State Abstractions for Bilevel Planning
- Relevant coursework: Machine Learning; Advanced NLP; Computational Sensorimotor Learning; Representation, Inference, and Reasoning in AI; Computer Systems Engineering; Elements of Software Construction; Design and Analysis of Algorithms; Statistics

**Massachusetts Institute of Technology**                                Cambridge, MA
B.S. in Computer Science. Minor in mathematics. GPA 4.9/5.0              Sep 2018 – May 2023

## Research Experience

**MIT Learning and Intelligent Systems Group**                          Cambridge, MA
Advisor: Leslie Kaelbling                                        Sep 2021 – Jan 2023
- Contributed to a framework for bilevel planning using learned neuro-symbolic relational abstractions by proposing an embodied active learning paradigm for learning state abstractions
- Implemented an online algorithm that outperforms all baselines while exhibiting sample efficiency on planning tasks in three robotic environments

**MIT Computer-Aided Programming Group**                              Cambridge, MA
Advisor: Armando Solar-Lezama                                     Dec 2020 – May 2021
- Explored modeling types of political governance systems with the goal of inferring an optimal system given desired societal outcomes; Leveraged techniques from reinforcement learning and program synthesis

**Marin Soljačić Group**                                            Cambridge, MA
Advisor: Marin Soljačić                                          Sep 2020 – May 2021
- Constructed a graph neural network model that can be trained end-to-end and used to extract interpretable equations, such as underlying mathematical laws, from data
- Demonstrated the advantages of this architecture for symbolic regression over simpler approaches

## Publications & Presentations

1. **Amber Li**, Tom Silver. Embodied Active Learning of Relational State Abstractions for Bilevel Planning. *Conference on Lifelong Learning Agents (CoLLAs) 2023.* **Oral presentation (Top 12).**

## Professional Experience

**Two Sigma Investments**                                                                              New York, NY
Software Engineer                                                                              Feb 2023 – Present
- Build data pipelines, communicate with modeling stakeholders, develop infrastructure and tooling, and contribute operational support as part of the Modeling Data Engineering team

**Two Sigma Investments**                                                                              New York, NY
Software Engineering Intern                                                                              Jun – Aug 2022
- Designed and implemented a customizable tool that calculates and generates metrics reports for evaluating fast forecasts
- Leveraged Python, Pandas, and in-house tools and platforms for scalability and performance

**Two Sigma Investments**                                                                              Remote
Software Engineering Intern                                                                              Jun – Aug 2021
- Built a streaming system that generates intervalized tickdata to enhance business capabilities
- Learned to use Apache Beam, Flink, and Kafka technologies; Leveraged numpy, pandas, and Jupyter Notebook to analyze intervals

**Microsoft**                                                                              Remote
Software Engineering Intern                                                                              May – Aug 2020
- Integrated an open-source library into the command-line tool Windows network shell (netsh)
- Paved the way for modern Http.sys configuration by adding functionality to netsh for importing/exporting info in JSON format, providing a scalable, scriptable alternative to the current tool; Coded in C/C++
- Enhanced the service state info displayed by netsh to aid users in administering Http.sys

**Two Sigma Investments**                                                                              Houston, TX
Software Engineering Intern                                                                              May – Aug 2019
- Implemented a RESTful proxy service for retrieving users who are on-call for a specified product or service at certain times
- Designed, specified, and visualized the API endpoints using OpenAPI and SwaggerUI; Implemented the endpoints using Java and built a Slack bot using the API

## Teaching Experience

**6.006 Introduction to Algorithms**                                                                              MIT
Graduate Teaching Assistant                                                                              Spring – Fall 2022
- Taught recitation 2x/week, managed all graders, wrote and edited recitation notes and problem sets, staffed office hours, proctored and graded exams

**6.006 Introduction to Algorithms**                                                                              MIT
Lab Assistant, Grader                                                                              Spring – Fall 2020

**HUAUSCR Summit for Young Leaders in China (HSYLC)**                                                                              Virtual
Core Lecturer                                                                              Aug 2020

**6.009 Fundamentals of Programming**                                                MIT
Lab Assistant                                                                    Fall 2019

## Leadership & Service

**MIT Women in Electrical Engineering & Computer Science**          Sep 2019 – May 2022
Co-President, Mentorship Committee Member, Mentor
- Elected co-president of student-run organization that seeks to support and empower women in EECS by building community; Led bi-weekly exec meetings
- Drove the creation of the group's corporate partnership program through collaboration with Professional Development committee members and EECS administrators
- Organized mentor-mentee matches and planned monthly social events for the 100+ member mentorship program

**Society of Women Engineers (SWE) – MIT Chapter**                  Feb 2019 – Dec 2020
Technology Chair, Member
- Organized and taught technology workshops to SWE members and the MIT community
- Mentored middle school girls in web development using HTML/CSS and JavaScript
- Selected for sponsorship to attend the WE Conference in 2019 and 2022 and the Grace Hopper Celebration in 2020

**Eta Kappa Nu (HKN) – MIT Chapter**                                 May 2020 – May 2022
Member, Tutor

## Awards

**MIT Chamber Music Society**: Chamber Music Performance Award                 May 2022
**U.S. Presidential Scholars Program**: Semifinalist                          Apr 2018
**National Merit Scholarship**: Recipient                                     Mar 2018
**Math Prize for Girls**: Honorable Mention, Olympiad Qualifier               Sep 2017
**National Center for Women & IT**: Aspirations in Computing: Certificate of Distinction      Feb 2017

## Activities

**MIT Chamber Music Society**: Violinist                             Sep 2019 – Dec 2022
**MIT Asian Dance Team**: Dancer                                     Sep 2020 – Dec 2022
**13.1**: Staten Island Half Marathon Finisher                               Oct 2023

## Skills

**Programming:** Python (proficient), Java, C, Julia, HTML, CSS, JavaScript (React, Node.js), Linux/Bash, LaTeX
**Languages:** English (native), Mandarin Chinese (conversant)