

# Luoxi Meng

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## EDUCATION

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**University of Michigan**, Ann Arbor, MI, US Aug 2021 - Present  
Master of Science, Computer Science & Engineering GPA: 3.92/4.00

**Simon Fraser University**, Burnaby, BC, Canada Sep 2019 - Aug 2021  
Bachelor of Science (with Distinction) GPA: 3.92/4.33  
Computing Science, Dual Degree Program with Zhejiang University

**Zhejiang University**, Hangzhou, China Sep 2017 - Jun 2021  
Bachelor of Engineering GPA: 3.66/4.00  
Computer Science and Technology, Dual Degree Program with Simon Fraser University

## RESEARCH EXPERIENCE

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**SymbioticLab @ University of Michigan** Ann Arbor, MI, US  
Research Assistant Aug 2022 – Present  
Advised by Prof. Mosharaf Chowdhury

- Extended Zeus, an energy optimization framework for Deep Neural Network (DNN) training, from single-GPU to single-node multi-GPU that supports efficient data parallel training.
- Won the 2<sup>nd</sup> Best Overall Solution in Carbon Hack 22 in a team of three by creating Carbon-Aware Zeus, which reduces the total carbon footprint in DNN training significantly with almost no training time increase.
- Presented a one-hour knowledge share at SymbioticLab meeting with the title “MLOps: Machine Learning from Lab to Production”.
- Ongoing: integrating Zeus with Kubeflow, an open-source Kubernetes-native MLOps platform for machine learning workflow orchestration, to ease the adoption of Zeus into industries.

**Future of Programming @ University of Michigan** Ann Arbor, MI, US  
Research Assistant Aug 2022 – Present  
Advised by Prof. Cyrus Omar

- Ongoing: integrating Livelits, a mechanism that enables clients to fill type holes by manipulating user-defined embedded GUI, and Hazel, a live functional programming environment featuring typed holes.

**Graduate Laboratory for Distributed and Operating Systems @ University of Michigan** Ann Arbor, MI, US  
Research Assistant Apr 2022 – Oct 2022  
Advised by Prof. Manos Kapritsos

- Worked on Cruiser, the first approach that can produce high-performance, fully verified distributed system implementations, while relying on little manual effort.
- Implemented three distributed protocols under Cruiser’s framework: a distributed lock server, leader election in a ring, and a replication library based on MultiPaxos.
- Formally verified that each protocol refines its abstract specification.
- Extended the package that automatically generates message marshalling and demarshalling modules.

## GRADUATE COURSEWORK

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**EECS 582: Advanced Operating Systems** UMich, US  
Enabling efficient address translation in processing-in-memory (PIM) Jan 2022 – Apr 2022

- Proposed three address translation models where the host and PIM cores take different responsibilities in address translation with different placement of translation lookaside buffer (TLB).
- Evaluated the performance of the proposed models on the DAMOV benchmark suite.

## EECS 592: Artificial Intelligence Foundations

UMich, US

Solving Five Card Stud with Reinforcement Learning (RL)

Sep 2021 – Dec 2021

- Applied RL to approach Five Card Stud, a card game similar to Texas Holdem. Formulated a game tree and constructed a multi-agent environment that supports both RL agents and human players.
- Implemented Monte Carlo Tree Search (MCTS) and further improved the algorithm by modifying the return function, which increased the winning rate of the MCTS agent against the uniform random agent by 10%.

## WORK EXPERIENCE

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### SpeedLine Solutions Inc.

Abbotsford, BC, Canada

Software Developer Intern

Jan 2021 – Apr 2021

- Performed end-to-end testing on the shopping cart component; identified and fixed the inconsistency between frontend data presentation and backend data store.
- Deployed Google Tag Manager (GTM) to the company's online ordering website and created custom tags and triggers for eCommerce measurement and analytics, which cover 90% of user activities.

### Morgan Stanley, Algorithmic Trading Infrastructure

Shanghai, China

Project Intern

Jul 2019 – Aug 2019

- Designed and implemented an application that tracks real-time trading data and converts it to GUI and deployed it to the internal platform to improve the efficiency of online testing and debugging.
- Presented at a global team meeting to introduce the new application and obtained positive feedback.

## HONORS & AWARDS

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Carbon Hack 22, 2<sup>nd</sup> Best Overall Solution - \$25,000

Nov 2022

SFU Dean's Honor Roll

Summer 2021

SFU Undergraduate Open Scholarship - CA\$1,890

Fall 2020, Spring & Summer 2021

SFU-Zhejiang University Dual Degree Program Entrance Award (top 5%) - CA\$5,000

Fall 2019

Zhejiang University Scholarship - Third Prize

2017-2018

Zhejiang University 2017-2018 Academic Excellence Award

2017-2018

## STEM OUTREACH

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UMich Discover Engineering Camp for 8-10<sup>th</sup> Grade Kids, Volunteer

July 2022

UMich Xplore Engineering Camp for 4-7<sup>th</sup> Grade Kids, Volunteer

June 2022

SFU Woman in Computer Science (WiCS), Member

Sep 2019 – Aug 2021

## SKILLS

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**Programming Languages:** Python, C/C++, Dafny, JavaScript/TypeScript

**Tools:** Docker, Kubernetes, Kubeflow

**Oral English:** Effective Proficiency (Passed Graduate Student Instructor Oral English Test @ UMich)