Zhihao (Leo) Li

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EDUCATION

Brown University, Providence, RI — Expected May 2025

M.S. in Computer Science

University of Washington, Seattle, WA | GPA: 3.89 / 4.0 — June 2023

B.S. in Computer Science, Applied and Computational Mathematical Sciences (Discrete Math and Algorithms)

Relevant coursework:
Deep Learning, Machine Learning, Robotics, Operating Systems, Distributed Systems, Databases Systems, Computer Networks, Software Design and Implementation, Data structures and Parallelism, Theory of Computation

Honors: Dean's List for 10 consecutive quarters (Winter 2019 - Spring 2023), *Cum Laude*

TECHNICAL SKILLS

- Languages: Proficient: [Python, Java, C++, C, SQL], Moderate: [JavaScript, R, Ruby]
- Additional skills: Git, HTML, CSS, React, NodeJS, Docker, ROS, TensorFlow, PyTorch, MATLAB

EXPERIENCES

Navigation and Kinematics Development Intern,
Noah Robot Technology (Shanghai) Co., Ltd., Shanghai — July 2023 – August 2023

- Implemented a cliff detection feature in **C++** by leveraging Point Cloud Library in **ROS** to analyze and process 3D point cloud data input from a pair of **iTOF** sensors
- **Doubled** the warning distance from 20cm to 40cm, successfully providing additional time for a mobile robot to decelerate and come to a secure halt
- Deployed the functionality with the **highest** warning level on 50 robots commercially in use in 8 shopping malls
- Annotated 6 different objects in over 20000 robot-captured images across multiple hospital locations, utilizing **CVAT**

Teaching Assistant for CSE 312, University of Washington, Seattle — January 2023 – June 2023

- Committed to preparing for section materials and grading assignments in weekly staff meetings
- Instructed new concepts and reviewed sample questions in sections of 30 students twice a week
- Held individual office hours for 1 hour a week to answer questions mainly on assignments and lecture materials

PROJECTS

SimpleDB | course project — April 2023 – June 2023

- Architected a **robust** database management system using objected-oriented programming in **Java**, capable of executing SQL queries, and supporting concurrent transactions through **strict 2PL**
- Optimized the join operation by creating a customized hash join method, resulting in a 5-fold speed boost in executing a SQL query that merges 4 extensive datasets totaling 360,000 records, compared to the provided reference runtime

Distributed Key-value Storage System | course project — Jan 2023 – Mar 2023

- Built a **highly available, strongly consistent** distributed key-value storage system in **Java**
- Implement the **Multi-Paxos** consensus algorithm, enabling stable leaders and garbage collection
- Sharded keys across Paxos replica groups to improve system throughput in proportion to the number of groups
- Employed **two-phase commit** to supporte cross-group transactions across multiple Paxos groups

UW Campus Map | course project — April 2022 – June 2022

- Developed a pathfinder web application for finding the shortest route between any two of the 52 locations on the UW campus using **React** and **NodeJS**.
- Processed over 5200 raw coordinates to cover all available paths on campus
- Built the interactive webpage using 5 class components in **React**, displaying the route by the location selections

Husky Coding Project — September 2021 – March 2022
Member, Mobile app team

- Contributed to a "business" card app with 7 other developers for users displaying social media accounts and sharing them with peers
- Designed concise layout for login page, main page, and account page using **Figma**
- Brainstormed essential functionalities to be accomplished in the minimum viable product