

LINDA (CHUYI) Z.

Medford, MA | Personal Webpage: [lindazha0.github.io](#)

EDUCATION

Tufts University <i>M.S. in Computer Science GPA:3.93/ 4</i>	Medford, MA <i>Sep. 2022 – May 2024 (expected)</i>
ShanghaiTech University <i>B.E. in Computer Science and Technology GPA:3.5/ 4</i>	Shanghai, China <i>Sep. 2018 – Jul 2022</i>

TECHNICAL SKILLS

Programming Languages: Python, C/C++, Java, HTML/CSS, JavaScript, Assembly(RISCV)
Frameworks & Technologies: Vue.js, React.js, Node.js, SQL(PostgreSQL), MongoDB, Django, PyTorch
Developer Tools: Git, Linux, Docker, MATLAB, Logisim

WORK EXPERIENCE

Tufts University – Operating Systems, Software Engineering <i>Teaching Assistant C/C++, Java, Bash, Git</i>	Medford, MA <i>Feb 2023 – May, Sep – Now</i>
<ul style="list-style-type: none">Set and support the auto-grading system and customized unit test for effective teaching.Hold office hours for classes of over 200 to help with coding and concepts, and meet the professor regularly.	
Siemens EDA – Emulator Visibility Team <i>Software Engineer Intern C/C++, Bash, Python, Verilog</i>	Waltham, MA <i>May 2023 – Aug 2023</i>
<ul style="list-style-type: none">Optimized the Hardware-assisted Verification System with a 90+% max speedup in a critical compile time.Engineered hundreds of single-static-operation compiler-level experiments using Bash and Python automation.Identified three features yielding over 50% performance enhancement by minimizing SSA density.Extended a daily-used query tool for 4 new databases in C++, improving debugging efficiency by 80%.	
ShanghaiTech University – ViSeer Lab <i>Research Assistant HTML/CSS, Javascript, Figma, Python, MongoDB</i>	Shanghai, China <i>Jul 2021 – Sep 2022</i>
<ul style="list-style-type: none">Served as a lead developer on three Visual Analytics projects, two accepted by top conferences. Focused on full-stack development and integrated AI models for enhanced data analysis.Engineered research applications with D3.js for visualization and utilized PyTorch for data mining tasks.Crafted visual graphs in Figma and Adobe XD, and produced supplementary videos for academic papers..	
Neogenint Technology <i>Software Developer Intern HTML/CSS, JavaScript, Python, Java, Bash</i>	Shanghai, China <i>Jul 2021 – Oct 2021</i>
<ul style="list-style-type: none">Independently developed and tested <i>JetBot</i> software in Javascript, Java on servers, then deployed and validated on Nvidia Jetson edge devices for real-world performance.Developed a learning-based crack detector in PyTorch with 90+% accuracy and a multimodal interface.Accomplished server performance profiling using <i>MLPerf Benchmark</i> to enhance the server design workflow.	

PROJECTS

GNN-based Call Graph Encoder <i>Python, HPC Cluster project link</i>	<i>Mar – Apr 2023</i>
<ul style="list-style-type: none">Implement a framework to generate graph structural embedding vectors with PyG and experimented 4 GNNs.Achieved a 70% speedup on average and reduced space complexity from $O(n^2)$ to $O(1)$ with over 60% accuracy.Processed trace data of over 200GB using NumPy and pandas, and reconstructed dependency call graphs.	
Web App for Commercial Visual Analytics: <i>PromotionLens</i> <i>Javascript, Python, MongoDB</i>	
<ul style="list-style-type: none">Developed a full-stack web application with Vue.js, React.js for frontend, MongoDB for backend.Extracted and trained data from a 4GB promotional dataset using pandas and PyTorch. Utilized D3.js for data visualization and integrated models with Flask for interactive evaluation and promotion strategy development.Worked closely with specialists and stakeholders, as a research assistant, to refine the application designs based on studies, with findings published in <i>IEEE VIS2022 conference</i>.	

Embedded App on Nvidia Jetson Nano: JetBot | Javascript, Java, Python, Bash, SQL, Docker

- Assembled the JetBot, a compact robot equipped with cameras, motors, and various components. Configured the software environment using **Docker**, **Python**, and **Bash** scripts.
- Engineered a control interface with **Vue.js**, **D3.js** for frontend, and **Spring** framework with **SQL** backend.
- Implemented multimodal functional features, including face recognition, voice prompts, etc. Utilized **OpenCV** for camera functionality and **Tracking.js** for face detection, while integrating commercial APIs for others.
- The work reduced a 20% reduction in budget estimates and also laid the foundation for future robotic projects.

Bioinformatics: PPI Prediction Based on Multi-Channel Deep Learning | Python Sep 2020 - Apr 2021

- Developed a deep learning framework with **PyTorch** to evaluate *Protein Data Bank(PDB)* data for bioinformatics research and evaluated the model with state-of-the-art benchmarks.
- Preprocessed nearly 20,000 PDB datasets using scripts on high-performance computing servers.
- Developed a deep learning framework with **PyTorch** and trained a predictive model with an accuracy of 92.7%.

Operating System Projects: PintOS from Stanford | C/C++ | [project link](#)

- Developed OS functions, including synchronized threads, virtual memory, user programs and file system.
- Implemented thread concurrency with semaphore-based locks to schedule threads with different priorities.
- Handled system calls of the user program through argument parsing and kernel operations.
- Implemented file systems with directory tree structures and virtual memory with mappings to deal with page faults.

HACKATHON AWARDS

- | | |
|---|-----------|
| TechTogether Boston 2023 UI Design, Full-stack Winner of 3 prizes [project link] | Oct. 2022 |
| SC21 Student Cluster Competition HPC Winner of the Reproducibility Challenge [publication] | Nov. 2021 |