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LINDA (CHUYI) Z.

Medford, MA | Personal Webpage: lindazha0.github.io | *GHC'23 Attendee*

EDUCATION

Tufts University	Medford, MA
*M.S. in Computer Science	GPA:3.89/ 4*	*Sep. 2022 – May 2024 (expected)*

ShanghaiTech University	Shanghai, China
*B.E. in Computer Science and Technology	GPA:3.5/ 4*	*Sep. 2018 – Jul 2022*

Selected Courses: Data Structure and Algorithms, Operating Systems (TA), Computer Architecture, Software Engineering(TA), Database Management, Artificial Intelligence, Deep Graph Learning, Probabilistic Robotics

TECHNICAL SKILLS

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

EXPERIENCE

Tufts University – Operating Systems, Software Engineering	Medford, MA
*Teaching Assistant	C, Java, Bash*	*Feb 2023 – May, Sep – Now*

- Helped set and support the e-grading system, sometimes customized unit testing manually, for effective teaching.
- Hold office hours for classes of over 200, helped with coding and concepts, and feedback to the professor regularly.

Siemens EDA – Emulator Visibility Team	Waltham, MA
*Software Engineer Intern	C/C++, Bash, Python, Verilog*	*May 2023 – Aug 2023*

- Optimized the Hardware-assisted Verification System with a 90+% max speedup in a critical compile time.
- Engineered hundreds of compiler-level experiments using **Bash** and **Python** automation, identifying three features yielding over 50% performance enhancement by minimizing single-static-operation density.
- Teamed with a 20+ year expert group, extending a daily-use database query tool for 4 new databases in **C++**.

ShanghaiTech University – ViSeer Lab	Shanghai, China
*Research Assistant	HTML/CSS, Javascript, Figma, Python, MongoDB*	*Jul 2021 – Sep 2022*

- Served as a lead developer on three Visual Analytics projects, with two recognized by IEEE 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	Shanghai, China
*Software Developer Intern	HTML/CSS, JavaScript, Python, Java, Bash*	*Jul 2021 – Oct 2021*

- Independently developed and tested *JetBot* software in **Javascript, Java** on servers, then deployed and validated on Nvidia Jetson edge devices for real-world performance.
- Developed a learning-based crack detectior in **PyTorch** with 90+% accuracy and a multimodal interface.
- Accomplished server performance profiling using *MLPerf Benchmark* to enhance the server design workflow.

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*

Projects

GNN-based Call Graph Encoder | *Python, HPC Cluster* | *project link*   *Mar – Apr 2023*
- 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: _PromotionLens_ | *Javascript, Python, MongoDB* *Jul – Sep 2021*
- 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 to refine the application designs based on studies, with findings published in *IEEE VIS2022 conference*.

Embedded App on Nvidia Jetson Nano: JetBot | *Javascript, Java, Python, Bash, SQL, Docker* *Jul – Sep 2021*
- 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*
- 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%.