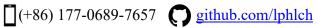
Pinhao Lyu

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Education

Tongji University, Shanghai, China

Sep 2020 — Jul 2024

Bachelor of Engineering in Computer Science and Technology

CGPA: 4.73/5.0 (92%), Major GPA: 4.90/5.0 (94%)

Undergraduate Project: Design and Development of PIS Intelligent Operation and Maintenance System Server Side Based on Microservices

Relevant Courses: Computer Architecture, Computer Network, Artificial Intelligence, Software, Engineering, Operating Systems, Principles of Compilers, Methodology of Software Development

Honors: 2020 and 2021 scholarships for excellent undergraduate students of *Tongji* University



Internships

Cisco Systems

Apr 2023—Sep 2023

Software Developer Intern

- Created efficient data crawling scripts using asyncio and aiohttp to facilitate concurrent operations at the coroutine level, improving data acquisition and processing efficiency. Deployed a robust website using Diango and an intuitive dashboard to streamline content management and improve user experience
- Collaborated with cross-functional teams for seamless integration across business groups

SAP

Oct 2023 — Present

DevOps Support Engineer Intern

- Assisted in enhancing software development and deployment processes using version control (Git), continuous integration and continuous deployment (CI/CD, Jenkins), and containerisation technologies (Docker, Kubernetes). Work with cross-functional teams to automate key aspects of the software development lifecycle
- Analysed, troubleshot and supported various production components in an automated environment based on Linux and Kubernetes

Research

3D Tunnel Leakage Assessment through Enhanced GAN and Swin Transformer Model Python, Pytorch Sep 2022 — Feb 2023

- Sourced tunnel face images from various projects and improved dataset management by optimizing a Generative Adversarial Network (GAN) model
- Created a robust tunnel leakage detection and segmentation system using self-attention Deep Learning (DL) models built on the innovative Swin-Transformer architecture
- Contributed to introducing an automated procedure for pinpointing 3D leakage locations on rock tunnel faces, enabling suitable visualization



Python, Django, MySQL, HTML+CSS+JavaScript, Bootstrap, Docker

- Developed an online information visualization platform offering a dynamic heat-map view of house prices and surrounding amenities, improving user accessibility
- Collected and cleaned public house pricing data using web crawlers and *MySQL* database for efficient retrieval and used HTML, CSS, *JavaScript*, and *Bootstrap* framework for creating a front-end interface
- Implemented an interaction between user inputs and the database through *Django's ModelForm*, creating customized CSS styling, data validation, and comprehensive error display
- Improved UI/UX via asynchronous data submission using *Ajax* technology, supporting seamless data interaction, integrating *Baidu Maps* interface for visualizing house prices data geographically
- Deployed the app using *Docker* containers, ensuring effective distribution

Gobang Minigame

Apr 2022— Jun 2022

Python, PyQt

- Developed a *Gobang* mini-game using *Python* in *PyQt* framework, featuring an AI opponent empowered by the *Alpha-Beta Pruning* algorithm. The game's primary attributes include human-computer gameplay mode, incorporating automatic win/loss determination and the *undo-moves* feature.
- Leveraged multithreading to ensure smooth gameplay by preventing interface freezes during AI-based computations and optimized through improved cache hit rates, leading to 3x improvement in efficiency.

FPGA-based 79-key Electronic Piano with Autoplay and GUI

Nov 2021 — Jan 2022

Verilog HDL, Vivado

- Implemented a 79-key piano using *Verilog HDL* on the *Nexys4* FPGA board and tested it via *Logisim*, *Modelsim*, and *Vivado*
- Developed features like manual and automatic play, pitch and tempo adjustments, and a user-friendly GUI, which incorporated a display, keyboard, and *buzzer* for a complete UI/UX
- Created four integral piano components: an input and decoding system, a dynamic display system, an immersive buzzer system, and an inbuilt track playback mechanism

Curriculum Information Import Script

Jan 2021—Feb 2021

JavaScript

- Designed an automated tool to integrate course schedules from *Tongji* University's Academic Affairs System into a mobile course schedule app
- Adapted JavaScript code to interface with the Tongji University Academic System via the API, ensuring seamless data exchange. Devised an intelligent mechanism to retrieve and process course schedule information by parsing HTML content from webpages, streamlining data import
- Significantly reduced data entry time from 10 minutes to 30 seconds, improving user efficiency and facilitating 900+ users

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Skills

- **Programming Languages**: Python, JavaScript, C++, MySQL
- Frameworks: Django, Flask, React, PyQt, PyTorch
- Others: Git, Docker, Kubernetes, Linux, Jenkins, Microsoft Office
- Languages: Chinese (Native), English (Fluent, IELTS: 7.0)