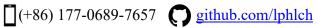
# Pinhao Lyu

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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 — 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

- Implemented and managed a set of automation solutions to support process automation for services catering to the development community and stakeholders in SAP and its customers
- Analyzed, trouble-shooted, and supported various production components in automation landscape

## Research experience

## 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

## Projects

#### **House Price Visualization Information Platform**

Oct 2022 — Jan 2023

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 — 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 — 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

# Skills

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