

SHIWEI HÉ

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EDUCATION

New York University, Courant Institute of Mathematical Sciences
Master of Science in Information Systems

Sept. 2023-May 2025(Expected)
New York, USA

• **Courses:** Fundamental algorithms, Programming Languages, Data Science, Systematic Trading, Data Communications & Networks

China University of Mining & Technology

Sept. 2018-July 2022

B.Eng. in Safety Engineering, minor in Computer Science

Beijing, CN

• **Courses:** Data Structures & Algorithms, Operating Systems, Computer Networks, Database Systems, Computer Architectures

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, HTML5, CSS3, Java, SQL, Shell, C++, Java, Scala, SML
- **Techniques:** React.js, Node.js, Express.js, MongoDB, Docker, Kubernetes, JWT, Elasticsearch, WebSocket, jQuery, CMake
- **Developer Tools:** AWS, Azure, Navicat, Postman, Swagger, Kibana, WireShark

PROFESSIONAL EXPERIENCES

Software Engineer intern, Zillnk

July 2022-Sept. 2022

- Developed the log System of **RRU** in C++ based on **OpenRAN**, leading to 20% enhancement in system's reliability & scalability
- Configured **MobaXterm** with the Linux OS and streamlined building process using **Petalinux**, reduced testing phase time by 40%
- Maintained over 50 **IoT Shell** scripts to automate operational commands, developed 2 fast Antenna parameter fetching algorithms
- Passed the **CI/CD** in Project Hertz+, one PR accepted and updated onto 1000 RRU products, improving fault fetching ratio by 10%

Software Engineer intern, GeoVIS

July 2021-Sept. 2021

- Engineered responsive **React.js** front-end pages using **OOP** principles for the implementation of the advanced BI platform for clients
- Utilized **Apache ECharts** for intricate data visualization, developed **Node.js** programs to optimize JSON files' parsing time by 15%
- Incorporated **MongoDB** for robust data storage, crafted **RESTful APIs** documented via **Swagger** optimized operational time by 20%
- Implemented advanced **Express.js** techniques, achieving a 30% boost in API scalability, incorporating **Elasticsearch** for robust retrieval, and refined analytics, and boosted overall BI platform performance.

PROJECTS

Automated Text Processing Tool for Historical Data - TextTransformerAI

[GitHub](#) Mar. 2024 – Apr. 2024

- Crafted an innovative solution with **Pandas** and **GPT-turbo-3.5** to distill information from 170K characters of unstructured text
- Refined algorithms to manipulate raw texts via **Openpyxl**, and **Regex** into structured insights, enhancing data clarity and coherence
- Implemented strategic **OpenAI API** interaction optimizations, including effective pre-process like **tokenization** and **classification**
- Built a **Streamlit app** as the front-end of the AI agent, deployed on **AWS Elastic Beanstalk** for robust, scalable access

Web Full-Stack Development for Artist Portfolio

[GitHub](#) Jan. 2024 – Mar. 2024

- Designed the interactive UI in **Figma**, migrated the **React.js** app from **CRA** to **Vite** to accelerate the building stage by 19%
- Maintained **Tailwind CSS** to achieve complex layout, significantly reduced the CSS styling time while improved consistency
- Deployed the application via **Nginx** on the **Ubuntu Linux OS**, enhancing scalability by 15% through optimized configuration.
- Optimized the **RESTful API** to make the app run smoothly on the **AWS**, improving the connection speed and security by 20%

HONORS & PUBLICATIONS

- National Software Competition 3rd Prize, LanQiao Cup 12th Python 3rd Price, Academic Merit Student Scholarship
- [Gao, Y., He, S., Wang, G., & Xu, P. \(2021, April\). Disentanglement of Human Facial Features and the Inspection of Feature Extractor's Quality Based on TL-GAN. In Journal of Physics: Conference Series \(Vol. 1903, No. 1, p. 012031\). IOP Publishing.](#)
- [Li, J., Tang, F., Zhu, C., He, S., Zhang, S., & Su, Y. \(2024\). BP-YOLO: A Real-Time Product Detection and Shopping Behaviors Recognition Model for Intelligent Unmanned Vending Machine. IEEE Access.](#)

EXTRACURRICULAR

- **Hackathons:** AWS X MongoDB NYC Hackathon on GenAI (Jan. 24th, 2024), TFC Hackathon in Boston University (Feb 17-18th)
- **Volunteer:** System Technician @ China Rainbow Network (Chinese LGBTQ+ Alliance in the US), Out in Tech Digital Corps
- **Video Creator/Director:** Running a [Bilibili channel](#) with over 10,000 subscribers, directed and filmed over 100 videos
- **Music:** Guitar and piano player, Logic Pro X Producer, have 10+ original songs about to be released with my debut album 22