SHIWEI HÉ

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EDUCATION

New York University, Courant Institute of Mathematical Sciences   Sept. 2023-Dec. 2026(Expected)
Master of Science in Information Systems   *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:** C++, Python, Java, JavaScript, HTML5, CSS3, SQL, Shell, Scala, SML
- **Techniques:** jQuery, Bootstrap, React.js, Node.js, Express.js, MongoDB, Kubernetes, Flask, Elasticsearch, WebSocket, CMake
- **Developer Tools:** AWS, Azure, Navicat, Postman, Swagger, Kibana, WireShark, Docker

PROFESSIONAL EXPERIENCES

Software Engineer Intern, Zillnk   July 2022-Sept. 2022
- Developed the logging system of the Remote Radio Unit in C++ based on **OpenRAN**, leading to a 20% enhancement in the 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, increased the development efficiency by writing documentations for the tool usage.
- Ported fault detection system to the new software platform. Updates passed **CI/CD** and were pushed to an in-field population of 1000 RRU products and were shown to improve fault detection 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*