**SHIWEI HÉ**

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# EDUCATION

**New York University,** Courant Institute of Mathematical Sciences Sept. 2023-May 2025(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](https://github.com/ShiweiHe0713/TextTransformerAI)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](https://github.com/ShiweiHe0713/my_website_react) 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.](https://iopscience.iop.org/article/10.1088/1742-6596/1903/1/012031/meta)
* [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.](https://ieeexplore.ieee.org/abstract/document/10418907)

# 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](https://space.bilibili.com/337084275/) 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*