# LONG MA

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## Education

**University of Illinois Urbana-Champaign** — Champaign, IL, USA
Professional Master of Computer Science (MCS), GPA: 3.83/4.00 — 2022/08 – 2023/12 (Expected)
- A-tier Courses: Data Mining Principles, Advanced Information Retrieval, Cloud Computing Applications, etc.

B.Sci in Computer Engineering, GPA: 3.75/4.00 — 2018/09 – 2022/06
- with Honors, Dean's List (Spring2021, Fall2021), Top 20%

**Zhejiang University** — Haining, China
B.Eng in Electrical and Computer Engineering, GPA: 3.89/4.00 — 2018/09 – 2022/06

## Work Experience

**Lei Shan Insurance Broker Co.,Ltd.** — 2022/02 – 2022/05
Software Development Engineer (Senior Design) — Remote
- **Tech Stacks: Python, openCV, PyTorch, TensorFlow**
- Constructed a 99% accurate character recognition system, specializing in reading handwritten Chinese characters on insurance policies. This system automated the formerly manual data entry process, reducing input time significantly and increasing data accuracy.
- Devised and implemented a data transmission interface for a high-precision camera, according to its official documentation. This development allowed for seamless integration of real-time camera input into our character recognition system.
- Reviewed relevant literature and replicated Melnyk-Net and Res-Net models for character reading. Through fine-tuning the models' hyperparameters, successfully increased the precision by approximately 20% on the company-specific datasets.
- Designed and developed a proprietary Optical Character Recognition algorithm to address the problem of neural networks only recognizing one character at a time, effectively segmenting images with multiple characters into individual images, each containing a single character.

## Projects

**Answer Alchemist** | React.js, Amazon RDS, Python — 2023/02 – 2023/05
- Developed an intelligent Q&A platform that allows users to search for interesting Q&A entries via keywords, addressing the outdated sorting mechanisms and labor-intensive manual filtering in traditional search engines and Q&A platforms.
- Utilized **React.js** for the development of the front-end interface, including the implementation of a feature that filters Q&A based on their tags. Employed **AWS RDS** for real-time data retrieval and storage of Q&A data and used **Python** for the development of the main sorting algorithm, BM25.
- Integrated the open-source API of ChatGPT to summarize search results, further enhancing user experience.

**Parallel ConvNet** | C, CUDA — 2021/09 – 2021/12
- Developed a DCNN utilizing parallel programming to recognize handwritten letters on white paper, enhancing the speed and accuracy of letter recognition.

**Room Reservation System** | HTML5+CSS3+JavaScript, Python Flask, MySQL, GCP — 2021/09 – 2021/12
- In response to the outdated and inconvenient room booking system at the ZJU campus, developed a new room reservation system. Users can log into the system using their university-related credentials and make reservations for available rooms, significantly enhancing the efficiency and ease of the booking process.
- Utilized **Python Flask** to set up the entire project framework, employed **Google Cloud Platform** for data storage, and maintained the database using **MySQL** queries in **MySQL Workbench**
- Leveraged front-end languages to develop and render the web page interface.

**A Linux-like OS** | C/C++, x86 — 2021/02 – 2021/05
- Collaborated with a team to develop a computer operating system, handling tasks such as initializing the Interrupt Descriptor Table (IDT), virtualizing the Real-Time Clock (RTC), and managing keyboard access and System Call operations. Additionally, I introduced TAB-key command auto-completion and up&down-arrows-key command switching features to enhance system functionality.

## Skills

**Coding**: Python, C/C++, Java, JavaScript, Assembly Language (lc3, x86), Ocaml, SystemVerilog, HTML5+CSS3
**Tech Tools**: MySQL, MangoDB, Neo4j, React.js, Django, Flask, Pytorch, Tensorflow, pandas, numpy, openCV, MATLAB, CUDA, Hadoop, Spark, AWS, LaTex, Typst, Office Softwares