Kexuan (Michael) Huang

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EDUCATION

University of Michigan (GPA: 3.9/4) — Ann Arbor, MI
Master of Science in Information Science (Software Development Track) — *Aug 2022 - May 2024*

University of Wisconsin-Madison — Madison, WI
Exchange Student in Computer Science — *Jan 2022 - May 2022*

Shanghai Jiao Tong University (UM-SJTU Joint Institute) — Shanghai, China
Bachelor of Engineering in Electrical and Computer Engineering — *Sep 2018 - Aug 2022*
*Minor in Computer Science*

WORK

Apple — Cupertino, CA
***Software Engineer,* Core OS** — *July 2024 - Present*
- Worked on Core AV Quality Engineering team with *C* and *Python* for validating AV technologies across all of Apple's product families, including unreleased prototypes.

Valeo — Troy, MI
Software Engineer — *Jun 2023 - Aug 2023*
- Developed programs in C-based programming language Communication Access Programming Language (*CAPL*) for automated-parking testing. Utilized distributed systems design tool *CANoe* to validate electronic control unit (*ECU*) network signals and virtual testing environment *Vosstrex* to simulate vehicle behaviors under diverse scenarios.
- Implement an image processing algorithm in *C++* with Open Graphics Library (*OpenGL*) to efficiently handle real-time raw video streaming from vehicle cameras placed at varying angles, ensuring adherence to strict specifications.
- Built *Jenkins CI/CD* pipelines with *Dashing* framework for multiple projects, triggered upon codebase changes in application lifecycle management (*ALM*) system to automate project build, code analysis on *Klocwork*, testing and hardware validation.

AMD — Shanghai, China
Software Engineer — *Dec 2020 - May 2021*
- Developed a static analysis plugin with *C++* and *Python* for hardware description language (*HDL*) (e.g. *VHDL*, *Verilog* and *SystemVerilog*) to parse source code, extract user-defined components (e.g. ports, modules and interfaces), conduct cross-validation among files and generate bug reports, which notably accelerated the routine design verification process.
- Implemented an internal team platform with *Django* framework in *Python* on the local area network (*LAN*), which enables seamless information sharing and workflow synchronization among colleagues in office. Developed various frontend views including dashboard, to-do list, worksheet and Q&A, using *JavaScript*, *HTML*, *CSS* along with framework *Bootstrap*.
- Revised and modernized legacy *Perl* and *Ruby* code with *Python* and *Shell* scripting, employing packages including *Requests*, *RegEx*, *Pandas*, *NumPy*, and *Sklearn* to establish a cohesive GPU test flow for efficient large-scale data process and analysis.

Segway — Shanghai, China
Software Engineer — *Jan 2020 - Mar 2020*
- Developed an onboard debug assistant in *C* using *FreeRTOS* for service mode of autonomous delivery robot prototype, facilitating real-time access to parameters and settings. Implemented structured folder-like view with bitmap graphic, efficient interaction logic using only few buttons, and utilized *UART*, *Bluetooth* & *Wi-Fi* for seamless log exporting solution.
- Implemented test programs for host computers & STM micro-controllers in *C* and *Python* scripting. Performed comprehensive unit tests for communication modules and integrated tests for decision-making systems in both PC emulator and real life.

TEACHING

University of Michigan — Ann Arbor, MI
***Graduate Student Instructor (GSI)** for course Data-Oriented Programming (SI206)* — *Aug 2023 - Dec 2023*
- Worked with a team of 16 people to coordinate 300 students to reinforce course concepts such as *Python*, *SQL*, data structure & algorithm, object-oriented programming, database management, API, file system and data analysis & visualization.
- Taught 2 lab sessions and held 2 in-person office hours per week to reinforce technical concepts and tutor coding projects. Made a series of lab slides with LaTeX and *Beamer*, which is more than 200 pages in total along with practice problems.

PROJECTS

ChatGPT on WeChat (GitHub 740 stars, 2.6k active users)
Open-source Project | **TypeScript, Node.js, Asynchronous Programming, Docker, CI/CD, Rapid Cloud Deployment**
- Develop an AI agent to integrated ChatGPT into WeChat (the most popular social media in China), enabling keyword triggered auto-reply, along with customized task handlers, facilitating productivity and fun with the cutting-edge AI model.
- Leveraged *TypeScript* asynchronous programming to seamlessly handle incoming chat messages, and forward responses from GPT-4o models through the integration of *Wechaty* (an open-source project on GitHub) and the OpenAI API.
- Released a deploy template on cloud platform *Railway* by streamlining the build & deploy process with *Docker*, which currently ranks Top 1 in chatbot popularity with over 2.6k active users. Resolved over 70 issues on GitHub.

SKILLS

- **Programming**: C, C++, Java, Python, JavaScript, TypeScript, SQL, React, LaTeX
- **Development**: Git, GitHub, Docker, VS Code, macOS, Linux
- **Specialty**: Badminton (former professional athlete in China & UMich team player), Anime Piano