Kexuan (Michael) Huang

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Education

- **University of Michigan** — Ann Arbor, MI
  Master of Science in Information — *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, Minor in Entrepreneurship

Full-Time

- **Apple** — Cupertino, CA
  ***Software Engineer* - Full-time (Core OS team)** — *Jul 2024 - Present*
  - Implemented a robust back-end API ecosystem and 5 Python libraries using *Python* and *Flask* for internal test platform infrastructure to standardize workflows, reduce bottlenecks and boost productivity by accelerate cycle times by 40%.
  - Developed specialized test cases for unreleased features and prototype, ensuring AV (Audio & Video) capabilities meet high quality standards. Worked with related hardware/software teams to develop comprehensive strategies for new test cases.
  - Acted as the main on-call responder for system-level problems in test environments, diagnosing and resolving software and hardware failures in real time while developing a series of monitoring tools with *Splunk* to reduce downtime by 30%.

Intern

- **Valeo** — Troy, MI
  Software Engineer - Intern — *Jun 2023 - Aug 2023*
  - Developed automated-parking testing programs in C-based language *CAPL*. Utilized distributed systems design tool *CANoe* to validate *ECU* network signals and virtual testing environment *Vosstrex* to simulate vehicle behaviors in diverse scenarios.
  - Implement image processing algorithms 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 and dashboards with *Dashing* frameworks, triggered upon codebase changes in ALM system to automate project build, code analysis on *Klocwork*, testing and hardware validation.
- **AMD** — Shanghai, China
  Software Engineer - Intern — *Dec 2020 - May 2021*
  - Developed static analysis plugins with *C++* and *Python* to parse HDL source code, extract user-specific components, conduct cross-validation and generate bug reports, which notably accelerated the routine design verification process.
  - Implemented an in-office team platform with *Django* framework in *Python* and *JavaScript/HTML/CSS* on the local area network (*LAN*), which enables seamless information sharing and workflow synchronization among colleagues in office.
  - Revised and modernized legacy *Perl* and *Ruby* code with *Python* and *Shell* scripting to establish a cohesive GPU test flow for efficient large-scale data processing and analysis.
- **Segway** — Shanghai, China
  Software Engineer - Intern — *Jan 2020 - Mar 2020*
  - Developed an onboard debug assistant in *C* using *FreeRTOS* for service mode of the autonomous delivery robot prototype, facilitating real-time access to parameters and settings. Utilized *UART*, *Bluetooth* & *Wi-Fi* for seamless log exporting.
  - Implemented test programs for host computers & STM micro-controllers in *C* and *Python*. Performed comprehensive unit tests for communication modules and integrated tests for decision-making systems in both PC emulator and real life.

Open-Source

- **ChatGPT on WeChat (GitHub 850 stars, 2.8k active users)**
  - Developed 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 second in the popularity of chatbots with more than 2.8k active users. Resolved over 70 issues on GitHub.
- **Data-Oriented Programming Lab (300 students, 200 pages)**
  - Published a series of lab slides with LaTeX and *Beamer* for Data-Oriented Programming course in University of Michigan targeting coding beginners, which is more than 200 pages in total along with practice problems.
  - Held more than 100 hours in-person teaching session and office hours to reinforce technical concepts and tutor coding projects for course topics include *Python*, *SQL*, data structure & algorithm, object-oriented programming, database management, API, file system, and data analysis & visualization.

Skills

- **Programming**: C, C++, Java, Python, JavaScript, TypeScript, SQL, React, Flask, LaTeX
- **Development**: Git, GitHub, Docker, VS Code, macOS, Linux
- **Specialty**: Badminton (Google & Apple Badminton Open A-level Champions, former professional athlete in China)