Xiang (Kevin) Li

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Education

University of Michigan, Ann Arbor, MI   2020 – May 2024 (Expected)
- Major: Computer Science, Minor: Linguistics
- GPA: 3.8/4.0
- Honors: James B. Angell Scholar (3 consecutive terms of all A's), Class of 1935 Engineering Scholarship ($2000 for the 2023-2024 academic year)
- Course Highlights: Computer Vision, Computer Security, Programming Languages, Intro to Machine Learning, Automotive User Interfaces, Language and History, Sound Patterns

Experience

Researcher   April 2022 – present
Michigan Intelligent Programming Lab, University of Michigan
- Transform WebRobot backend to utilize Finite Tree Automata and speed up execution by 10 times.
- Profile and optimize Rust code using techniques such as incremental computation, interning, and caching.
- Meet with professor and teammate to set weekly goals and manage paper submission deadline.

Researcher   Oct 2021 – present
Future of Programming Lab, University of Michigan
- Improve if expressions & tuple completions in Hazel, a live programming environment with typed holes.
- Systemize polymorphism with type aliases, for all types, and type functions backed by De Bruijn index.
- Experiment with integrating LLMs like Code Llama into Hazel for smart code completion
- Exercise peer programming with teammate to help navigate a large codebase with 246 branches.

Projects

Mobile App Developer   Oct 2021 – present
Hong Kong Lexicography Limited, Remote Work
- Devised a parser in Rust to understand more than 10,000 dictionary entries in a custom format.
- Incorporated Google's ML Kit to support handwritten input of Chinese characters.
- Persist and manage user bookmarks in a SQLite database.
- Gained 7.6K downloads on the iOS app store & 3.1K downloads on the Android play store.

Input Method Developer   Oct 2022 – Jun 2023
Personal project
- Designed and implemented a learner-friendly Korean input method for macOS using Swift.
- Trained a custom English word embedding using CoreML for fast reverse lookup of Korean phrases.
- Support seamless composition of Korean characters as the user types.

Computer Vision Engineer   Nov 2022 – Dec 2022
EECS 442 Computer Vision, University of Michigan
- Constructed a diffusion model to augment Kanji fonts using PyTorch.
- Experimented with eigencharacter embeddings using principal component analysis.
- Designed a better augmentation method using radical decomposition and intersection over union.
- Generated 1,274 Kanji characters in editable vector format with clear strokes and balanced structures.

Skills

Mobile App Development • Web Development • Functional Programming • OOP • UX/UI Design
Programming languages: Rust, C++, JavaScript, Java, TypeScript, Elm, Python, Dart, Swift, C#
Technologies: Flutter, SwiftUI, CoreML, PyTorch, HuggingFace, SQLite, Git, Figma, Illustrator
Languages: bilingual in English and Mandarin, proficient in Cantonese