

# Xiang (Kevin) Li

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## Education

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**University of Michigan**, Ann Arbor, MI 2020 – May 2024 (Expected)

- Major: Computer Science, Minor: Linguistics
- GPA: 3.85/4.0
- 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: Programming Languages, Compiler Construction, Intro to Operating Systems, Intro to Machine Learning, Intro to Natural Language Processing, Computer Vision, Computer Security, Automotive User Interfaces, Sound Patterns, Aspects of Meaning

## Experience

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**Researcher** Oct 2021 – present

Future of Programming Lab, University of Michigan, U.S.A

- 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.
- Integrating Large Code Models (LCMs) into Hazel for semantically contextualized code completion

**Researcher** April 2022 – Aug 2023

Michigan Intelligent Programming Lab, University of Michigan, U.S.A

- Proposed a novel program synthesis algorithm called lifted interpretation that lifts up the program interpretation process, from evaluating one program at a time to simultaneously evaluating all programs.
- Outperformed previous state-of-the-art web automation technique by an order of magnitude.
- Optimized Rust implementation using techniques such as incremental computation, internung, and caching.

**Visiting Scholar** Aug 2023 – Aug 2023

Max Planck Institute for Software Systems, Saarbrücken, Germany

- Participated in the Cornell, Maryland, Max Planck Pre-doctoral Research School (CMMRS).
- Learned about cutting-edge research in computer science from leading researchers.

## Publications

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**POPL 2024** Efficient Bottom-Up Synthesis for Programs with Local Variables  
Li, Xiang\*, Xiangyu Zhou\*, Rui Dong, Yihong Zhang, and Xinyu Wang  
*Proc. ACM Program. Lang*, Issue: POPL 2024

## Projects

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**Mobile App Developer** Oct 2021 – present

Hong Kong Lexicography Limited, Remote Work

- Designed and implemented a cross-platform mobile dictionary app using Flutter.
- Parsed and rendered more than 10,000 bilingual dictionary entries.
- Gained 8.7K installs on the iOS app store & 3.7K installs on the Android play store.

**Kernel Developer** Oct 2023 – Nov 2023

EECS 482 Intro to Operating Systems

- Led a team of three in designing a sophisticated memory manager for swap and file-backed pages.
- Addressed challenging software complexities in C++ to fulfill intricate project specification.

## Skills

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Mobile App Development • Web Development • Functional Programming • OOP • UX/UI Design

Programming languages: Rust, C++, Python, JavaScript, Java, TypeScript, Elm, Dart, Swift, C#

Technologies: Flutter, Docker, PyTorch, HuggingFace, SQLite, Git, Figma, Adobe Illustrator

Languages: bilingual in English and Mandarin, proficient in Cantonese