Michael B. James

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Research Interests

I research and build human-AI collaborative programming tools. I am interested in how *Programming Languages* techniques, *Human-Computer Interactions* methods, and *Artificial Intelligence* approaches together can automate and simplify interacting with code.

Education

University of California, San Diego
Ph.D., Computer Science, 2018-2024 *(expected)*
M.S., Computer Science, 2021
Advisor: Nadia Polikarpova
Fields: Programming Languages, Program Synthesis, Human-Computer Interactions

Tufts University
B.S., Computer Science, 2015.

Publications

Grounded Copilot: How Programmers Interact with Code-Generating Models
Distinguished Paper Award
Shraddha Barke*, **Michael B. James***, Nadia Polikarpova. *OOPSLA*. October 2023.

Live Exploration of AI-Generated Programs
Kasra Ferdowsi*, Ruanqianqian (Lisa) Huang*, **Michael B. James**, Nadia Polikarpova, Sorin Lerner. *ArXiv*. June 2023.

Program Recognition in Synthesis
Michael B. James, Nadia Polikarpova. *PLATEAU*. November 2021.

Digging for Fold: Synthesis-aided API Discovery for Haskell
Michael B. James, Zheng Guo, Ziteng Wang, Shivani Dosh, Hila Peleg, Ranjit Jhala, Nadia Polikarpova *OOPSLA*. November 2020.

Program Synthesis by Type-Guided Abstraction Refinement
Zheng Guo, **Michael B. James**, David Justo, Jiaxiao Zhou, Ziteng Wang, Ranjit Jhala, Nadia Polikarpova *47th ACM SIGPLAN Symposium on Principles of Programming Languages* (POPL 2020). January 2020.

Work Experience

Research Intern
Microsoft, Remote, Summer 2022
Mentors: Arjun Radhakrishna, Gustavo Soares

Software Engineer II
Jana Mobile, Boston, Massachusetts, Feb 2017 - Jun 2018

Software Engineer I
Uber Technologies, San Francisco, Jul 2015 - Dec 2016

*Equal Work

Elm Intern
Prezi, Budapest, Hungary, Summer 2014
Mentor: Evan Czaplicki

Talks

Grounded Copilot: How Programmers Interact with Code-Generating Models
2023 - OOPSLA 2023 (Cascais, Portugal)

Program Recognition in Synthesis
2021 - PLATEAU 2021 (Carnegie Mellon University)

Digging for Fold: Synthesis-aided API Discovery for Haskell
2021 - OOPSLA 2021 (Chicago)
2020 - OOPSLA 2020 (virtual)

Component-based Type Driven Synthesis
2019 - University of California, San Diego

Teaching

Graduate Teaching Assistant
Fall 2023. UC San Diego.
Supervisor: Nadia Polikarpova
Course: graduate-level programming languages.

Graduate Teaching Assistant
Spring 2022, Spring 2021, Fall 2019. UC San Diego.
Supervisor: Nadia Polikarpova
Course: undergraduate intro-to-programming languages.

Undergraduate Teaching Assistant
Tufts University, Fall 2014
Supervisor: Kathleen Fisher
Course: undergraduate intro-to-programming-languages

Service

Reviewer CHI 2024
Reviewer PLATEAU 2024
PLDI Student Volunteer Co-Chair 2023, 2024
PLDI Student Volunteer 2022
ICFP Artifact Evaluation Committee 2021
ICFP Artifact Evaluation Committee 2020