**Yuka Ikarashi** Email : yuka@csail.mit.edu
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## Education

**Massachusetts Institute of Technology** Cambridge, MA
*Ph.D. in Computer Science* *September 2020 –*
Advisor: Prof. Jonathan Ragan-Kelley

**Massachusetts Institute of Technology** Cambridge, MA
*Master of Science (S.M.) in Computer Science* *September 2020 – May 2022*
Advisor: Prof. Jonathan Ragan-Kelley

**The University of Tokyo** Tokyo, Japan
*Bachelor of Science in Information Science. Major GPA: 3.98/4.0* *April 2015 – March 2020*
Awarded a Dean's Award and ranked top at the Department of Information Science.
Advisor: Prof. Takeo Igarashi

## Publications

- **Exo2: Growing a Scheduling Language**
  **Yuka Ikarashi**, Kevin Qian, Samir Droubi, Alex Reinking, Gilbert Bernstein, Jonathan Ragan-Kelley
  In *ACM ASPLOS* 2025
- **UFO Instruction Graphs Are Machine Knittable**
  Jenny Lin, **Yuka Ikarashi**, Gilbert Bernstein, Jim McCann
  In *ACM SIGGRAPH Asia* 2024 (journal track)
- **Tackling the Matrix Multiplication Micro-kernel Generation with Exo**
  Adrian Castello, Julian Bellavita, Grace Dinh, **Yuka Ikarashi**, Hector Martinez
  In *International Symposium on Code Generation and Optimization (CGO)* 2024
- **Semantics and Scheduling for Machine Knitting Compilers**
  Jenny Lin, Vidya Narayanan, **Yuka Ikarashi**, Jonathan Ragan-Kelley, Gilbert Bernstein, Jim McCann
  In *ACM SIGGRAPH* 2023 (journal track)
- **Exocompilation for Productive Programming of Hardware Accelerators**
  **Yuka Ikarashi***, Gilbert Louis Bernstein*, Alex Reinking, Hasan Genc, Jonathan Ragan-Kelley
  In *ACM PLDI* 2022
- **Guided Optimization for Image Processing Pipelines**
  **Yuka Ikarashi**, Jonathan Ragan-Kelley, Tsukasa Fukusato, Jun Kato, Takeo Igarashi
  In *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)* 2021 short paper.
  *Best Short Paper Award*
- **PaintersView: Automatic Suggestion of Optimal Viewpoints for 3D Texture Painting**
  **Yuka Takahashi**, Tsukasa Fukusato, Takeo Igarashi
  In *ACM SIGGRAPH Asia* 2019 technical brief
- **Migrating Large Codebases to C++ Modules**
  **Yuka Takahashi**, Oksana Shadura, Vassil Vassilev
  In *19th International Workshop on Advanced Computing and Analysis Techniques in Physics Research (ACAT)* 2019.
- **Stitch: An Interactive Design System for Hand-Sewn Embroidery**
  **Yuka Takahashi**, Tsukasa Fukusato
  In *ACM SIGGRAPH* 2018 poster
  *ACM SIGGRAPH* Student Research Competition 3rd Place Award.

- **Optimizing Frameworks' Performance Using C++ Modules-Aware ROOT**
  **Yuka Takahashi**, Vasil Vasilev, Raphael Isemann
  In *23rd International Conference on Computing in High Energy and Nuclear Physics (CHEP)* 2018.

## Experience

**Apple** Cupertino, CA
*Software Dev Eng Intern @ Vector and Numerics team* *June 2023 – September 2023*
Led Apple's adoption of Exo (part 2).

**Amazon** Remote
*Applied Scientist Intern* *November 2022 – May 2023*
Led Amazon Device's adoption of Exo.

**Apple** Cupertino, CA
*Software Dev Eng Intern @ Vector and Numerics team* *June 2022 – September 2022*
Led Apple's adoption of Exo (part 1).

**The University of Tokyo** Tokyo, Japan
*Project Academic Support Specialist (research staff)* *April 2020 – May 2020*

**UC Berkeley** Berkeley, CA
*Visiting Student* *August 2019 – September 2019*
Led the Guided Optimization project.

**CERN** Geneva, Switzerland
*Research and Development Engineer* *March 2018 – February 2019*
Worked on Cling C++ interpreter and Clang C++ Modules in ROOT team.

**Google Summer of Code** Remote
*GSoC Student* *April 2017 – August 2017*
Worked on a dynamic shell autocompletion project in LLVM/Clang organization.

## Teaching and Mentoring

**MIT Undergraduate Research Opportunities Program (UROP)** Cambridge, MA
*Mentor* *September 2021 – present*
Mentored five MIT undergraduate students on research and development on Exo.

**Fundamentals of Programming (6.101)** Cambridge, MA
*Teaching Assistant* *Spring 2023*
Taught at MIT undergraduate programming class.

**Google Summer of Code** Remote
*Mentor* *April 2019 – August 2019*
Advised an undergraduate student on Global Modules Index project at HEP software foundation.

**Security Mini-Camp** Japan
*Lecturer* *September 2019*
Gave a compiler lecture to young students in the government-funded security lecturing project.

## Awards

- **Rising Stars in EECS (2024)**
- **Quad Fellowship (2024)** Granted $40,000
- **ML and Systems Rising Stars (2024)**
- **MIT Sandbox (2022)** Granted $1000 to work on a startup.
- **Masason Foundation Fellowship (2020-2025)** Granted 5 years of tuition, stipend, and travel costs.

- **MIT Great Educators Fellowship (2020)** Granted 9 months of tuition and stipend.
- **Dean's Award (2020)** Dean's Award from the University of Tokyo, for excellent academic performance and bachelor thesis. I was ranked top at the Department of Information Science.
- **Funai Overseas Scholarship (2021-2023)** Granted 2 years of tuition and stipend.
- **The University of Tokyo Study and Visit Abroad Program (2019)** Granted 2 months of stipend and travel costs.

## Community Service

- **OOPSLA** Artifact Evaluation Committee, 2025
- **CGO** Artifact Evaluation Committee, 2025
- **SIGGRAPH Asia** Reviewer, 2024
- **ICFP** Artifact Evaluation Committee, 2024
- **MIT PLR** Program Committee, 2023-2024
- **Japanese Association of MIT (JAM)** President, 2022-2024
- **Japanese Graduate Student Association** Vice President, 2020-2023
- **.406 Ventures Fellowship** Student Fellow, 2021-2023
- **E14 Fund Fellowship** Student Fellow, 2022-2023