Yuka Ikarashi

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EDUCATION

Massachusetts Institute of Technology Cambridge, MA

Ph.D. in Computer Science *September 2020 –*

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

SELECTED PUBLICATIONS AND TALKS

- **Exocompilation for Productive Programming of Hardware Accelerators**
  Yuka Ikarashi*, Gilbert Louis Bernstein*, Alex Reinking, Hasan Genc, Jonathan Ragan-Kelley
  In *ACM SIGPLAN Conference on Programming Language Design and Implementation (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 (overall Acceptance Rate 20%).

- **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 (overall Acceptance Rate 21%).
  ACM SIGGRAPH Student Research Competition 3rd Place Award.

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

- **A Better Shell Command-line Autocompletion for Clang**
  Yuka Takahashi
  In *LLVM developer's meeting* 2017 Lightning Talk.

EXPERIENCE

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*

Worked on Halide Scheduling Tool under a supervision of Prof. Jonathan Ragan-Kelley.

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 Experience

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*
Honored to give a compiler lecture to young students in the government-funded security lecturing project.

Involved Projects

- **ROOT** An open-source data analysis framework widely used in High Energy Physics field. Committer and an everyday contributor since March 2018. Maintaining Cling C++ interpreter and developing ROOT Runtime C++ Modules.

- **LLVM/Clang** An open-source compiler infrastructure. Committer and a regular contributor since 2017. Maintaining autocompletion feature and options in Clang Driver and developing C++ Modules in Clang ASTReader.

Awards

- **Masason Foundation Fellowship** Awarded a fellowship by Masason Foundation since 2020.

- **Great Educators Fellowship** A fellowship from MIT EECS. This fellowship was offered to only the strongest candidates. Granted 9 months of tuition and stipend.

- **Dean's Award** 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** Doctoral research fellowship from Funai Foundation since 2020. Granted two years of tuition and stipend.

- **Research Internship Grant** *The university of Tokyo Study and Visit Abroad Program (SVAP)*, 2019.