

Yusuke Izawa, Assistant Professor, PyPy Contributor

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Education

- 2020-2023 📌 **Ph.D. Mathematical and Computing Science, Tokyo Institute of Technology.**
Thesis title: *Supporting multi-scope and multi-level compilation in a meta-tracing just-in-time compiler.* (GPA 3.49)
- 2018-2020 📌 **M.Sc. Mathematical and Computing Science, Tokyo Institute of Technology.**
Thesis title: *Stack Hybridization: A Mechanism for Bridging Two Compilation Strategies in a Meta Compiler Framework.*
- 2014-2018 📌 **B.Sc. Mathematical and Computing Science, Tokyo Institute of Technology.**
Thesis title: *BacCaml: A Meta-JIT Compiler Based on Both Tracing and Method JIT Compilations.*

Employment History

- 2025.06 – 2025.09 📌 Heinrich-Heine-Universität Düsseldorf, Guest Researcher.
2023.04 – now 📌 Tokyo Metropolitan University, Assistant Professor.
- 2023.04 – 2024.03 📌 IBM Research – Tokyo, Research Scientist.
- 2023.04 – 2023.04 📌 JSPS Research Fellow PD. (declined)
- 2021.08 – 2021.10 📌 IBM Research – Tokyo, Research Internship (Paid).
- 2021.04 – 2023.03 📌 JSPS Research Fellow DC2.
- 2020.11 – 2023.03 📌 Tokyo Institute of Technology, Dept. of Math. and Comp., Research Assistant.

Selected Grants, Honours and Scholarships

- 2025 📌 **Tokyo Metropolitan University, Dispatching of Young Researchers to Overseas to Strengthen Research Capabilities.** Living expenses are covered by Tokyo Metropolitan University Fund.
- 2024 📌 **Grant-in-Aid for Research Activity Start-up.** Research expenses are covered by KAKENHI.
- 2023 📌 **Research Fellowship for Young Scientists (JSPS PD).** Fellowship from the Japan Society for the Promotion of Science (JSPS), covering living expenses. Research expenses covered by KAKENHI. (declined)
- 2021 📌 **Research Fellowship for Young Scientists (JSPS DC2).** Fellowship from the Japan Society for the Promotion of Science (JSPS), covering living expenses. Research expenses covered by KAKENHI.
- 2020 📌 **JST Strategic Basic Research Programs ACT-X.** Research expenses covered by Japan Science and Technology Agency (JST).
- 2019 📌 **2nd Place, Graduate Category, ACM Student Research Competition, Association for Computing Machinery. [*]**

Selected Publications










Journal

- 1 Yusuke Izawa, Hidehiko Masuhara, and Carl Friedrich Bolz-Tereick. “A Lightweight Method for Generating Multi-Tier JIT Compilation Virtual Machine in a Meta-Tracing Compiler Framework (Artifact).” In: *Dagstuhl Artifacts Series* 11.2 (2025), 16:1–16:4. ISSN: 2509-8195. [DOI](#): 10.4230/DARTS.11.2.16. [URL](#): <https://drops.dagstuhl.de/entities/document/10.4230/DARTS.11.2.16>.
- 2 Yusuke Izawa, Hidehiko Masuhara, Carl Friedrich Bolz-Tereick, and Youyou Cong. “Threaded Code Generation with a Meta-Tracing JIT Compiler.” In: *Journal of Object Technology* (2022), 2:1–11. ISSN: 1660-1769. [DOI](#): 10.5381/jot.2022.21.2.a1. arXiv: 2106.12496.





Conference Proceedings

- 1 Yusuke Izawa, Junichiro Kadomoto, and Hidetsugu Irie. “VisMorph: A Live Programming Environment for Shape-Adaptive Computers.” In: *37th ACM Symposium on User Interface and Software Technology (UIST)*. 2025.
- 2 Yusuke Izawa, Hidehiko Masuhara, and Carl Friedrich Bolz-Tereick. “A Lightweight Method for Generating Multi-Tier JIT Compilation Virtual Machine in a Meta-Tracing Compiler Framework.” In: *39th European Conference on Object-Oriented Programming (ECOOP 2025)*. Ed. by Jonathan Aldrich and Alexandra Silva. Vol. 333. Leibniz International Proceedings in Informatics (LIPIcs). Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2025, 16:1–16:29. ISBN: 978-3-95977-373-7. [DOI](#): 10.4230/LIPIcs.ECOOP.2025.16. arXiv: <http://arxiv.org/abs/2504.17460>. [URL](#): <https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.ECOOP.2025.16>.
- 3 Yusuke Izawa and Hidehiko Masuhara. “Amalgamating Different JIT Compilations in a Meta-Tracing JIT Compiler Framework.” In: *Proceedings of the 16th ACM SIGPLAN International Symposium on Dynamic Languages*. DLS 2020. Virtual, USA: Association for Computing Machinery, Nov. 17, 2020, pp. 1–15. ISBN: 9781450381758. [DOI](#): 10.1145/3426422.3426977.

Selected Academic Services

- 2026  Program Committee, PEPM 2026.
- 2025  Organizer and Program Co-Chair, VMIL 2025.
 Program Committee, Programming and Programming Language Workshop (PPL).
- 2024  External Reviewer, The Programming Journal, Volume 8. Issue 2.
 Reviewer, ACM Transactions on Architecture and Code Optimization.
 Reviewer, ACM Transactions on Software Engineering and Methodology.
 Program Committee, MPLR 2024, ICCQ 2024, MoreVMs 2024.
- 2023  Program Committee, ICSME 2023 (Industry Track), ICCQ 2023.
 Artifact Evaluation Committee, The Programming Journal, Volume 8.

Teaching

- 2024  Research Seminar for Electric Engineering and Computer Science. Tokyo Metropolitan University.
 Scripting Language Exercise. Tokyo Metropolitan University.
 Information System Experiment I, II. Tokyo Metropolitan University.
 Programming Exercise (EECS) II. Tokyo Metropolitan University.