

Yusuke Izawa, Ph.D. student

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🌐 <https://3tty0n.github.io>



Education

- 2020-now 📖 **Ph.D., Tokyo Institute of Technology.**
- 2018-2020 📖 **M.Sc. Mathematical and Computing, 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, Tokyo Institute of Technology.**
Thesis title: *BacCaml: A Meta-JIT Compiler Based on Both Tracing and Method JIT Compilations*

Employment History

- 2020.11-2023.3 📖 Tokyo Institute of Technology, Dept. of Math. and Comp., Research Assistant.
- 2018.6 – 2019.2 📖 Recruit Marketing Partners, Inc., Software Engineer, Self-employment.
- 2018.8 📖 Cookpad, Inc., Software Engineer, Internship. (**Won 2nd Place**)
- 2017.4 – 2018.3 📖 FOLIO, Inc., Software Engineer, Internship.
- 2016.8 – 2017.3 📖 DOWANGO, Inc., Software Engineer, Internship.
- 2016.1 – 2016.6 📖 Summaly, Inc., Software Engineer, Internship

Grants, Honours and Scholarships

- 2021 📖 **Research Fellowship for Young Scientists (JSPS DC2).** Fellowship from the Japan Society for the Promotion of Science (JSPS), covering living expenses. Research expense covered by KAKENHI.
- 2020 📖 **JST Strategic Basic Research Programs ACT-X.** Research expenses covered by Japan Science and Technology Agency (JST).
- 📖 **Tokyo Tech Tsubame Scholarship for Doctoral Students.** Covering living expenses.
- 2019 📖 **Travel Grants by Information Science Incentive Fund.** By dept. of mathematical and computing science, Tokyo Tech.
- 📖 **2nd Place, Graduate Category, ACM Student Research Competition, Association for Computing Machinery. [*]**
- 2014 📖 **Scholarship by the Showa Scholarship Foundation.** Covering living expensed by Showa Scholarship Foundation.

Publications

Peer-reviewed

- 1 Izawa, Y., Masuhara, H., Carl Friedrich, B.-T., & Youyou, C. (2021, July 13). Threaded code generation with a meta-tracing jit compiler. In *Proceedings of the 14th workshop on implementation, compilation, optimization of object-oriented languages, programs and systems*. Short paper, Virtual. Retrieved from <https://arxiv.org/abs/2106.12496>

- 2 Izawa, Y., & Masuhara, H. (2020a, November 17). Amalgamating different jit compilations in a meta-tracing jit compiler framework. In *Proceedings of the 16th acm sigplan international symposium on dynamic languages* (pp. 1–15). doi:10.1145/3426422.3426977
- 3 Izawa, Y. (2019, April 2). Baccaml: The meta-hybrid just-in-time compiler. In *Proceedings of the conference companion of the 3rd international conference on art, science, and engineering of programming*. **Awarded [*]**. doi:10.1145/3328433.3328466
- 4 Izawa, Y., Masuhara, H., & Aotani, T. (2019, April 2). Extending a meta-tracing compiler to mix method and tracing compilation. In *Proceedings of the conference companion of the 3rd international conference on art, science, and engineering of programming*. doi:10.1145/3328433.3328439

Non Peer-reviewed



- 1 Izawa, Y., Masuhara, H., Aotani, T., & Cong, Y. (2019, August 27). A stack hybridization for meta-hybrid just-in-time compilation. In K. Ito (Ed.), *Proceedings of the 36th jssst annual conference* (No. 2–L). nonrefereed. Shibaura Institute of Technology, Tokyo, Japan. Retrieved from <http://jssst.or.jp/files/user/taikai/2019/proceedings.html>

Talks

Oral and Poster Sessions

- 1 Izawa, Y., & Masuhara, H. (2021). Amalgamating different JIT compilations in a meta-tracing JIT compiler framework. The 23rd JSSST Workshop on Programming and Programming Languages. Reproduction of the DLS'20 talk at JSSST PPL, **Invited**. Retrieved from <https://jssst-ppl.org/workshop/2021/>
- 2 Izawa, Y., Masuhara, H., & Cong, Y. (2021). An interpreter design for supporting different JIT compilations in rpython framework. The 23rd JSSST Workshop on Programming and Programming Languages. Poster Presentation. Retrieved from <https://easychair.org/smart-program/PPL2021/>
- 3 Takahashi, S., Izawa, Y., Masuhara, H., & Cong, Y. (2021). 汎言語的ライブプログラミング環境のためのデータ構造解析手法. The 23rd JSSST Workshop on Programming and Programming Languages. Poster Presentation. Retrieved from <https://easychair.org/smart-program/PPL2021/>
- 4 Izawa, Y., & Masuhara, H. (2020b). Making different jit compilations dancing to the same tune, acting in the meta-level. The 22nd JSSST Workshop on Programming and Programming Languages. Poster Presentation. Retrieved from <https://easychair.org/smart-program/PPL2020/>
- 5 Masuhara, H., Takahashi, S., Izawa, Y., & Cong, Y. (2020). Toward a multi-language and multi-environment framework for live programming. Talk at the 2020 Workshop on Live Programming (colocated with SPLASH 2020). **Peer-reviewed**. Retrieved from <https://2020.splashcon.org/home/live-2020>
- 6 Takahashi, S., Izawa, Y., Masuhara, H., & Cong, Y. (2020). ライブプログラミング環境は多言語化/多開発環境化の夢を見るか. The 37th JSSST Annual Conference. Japan Society for Software Science and Technology. Poster Presentation. Retrieved from <https://jssst2020.wordpress.com/program/>
- 7 Izawa, Y., Masuhara, H., & Aotani, T. (2018). メタ混合 JIT コンパイラの提案. The 20nd JSSST Workshop on Programming and Programming Languages. Poster Presentation. Retrieved from <https://jssst-ppl.org/workshop/2018/program.html>

Academic Services

- 2021  Artifact Evaluation Committee, ECOOP 2021.
- 2020  Member of Student Volunteer, SPLASH 2020.

Academic Services (continued)

- Co-reviewer of Onward! Essays, SPLASH 2020.
- Candidate of Programming Language Mentoring Workshop, PLDI 2020.
- 2019 ■ Member of Student Volunteer, Programming 2019.

Teaching

- 2020 ■ Programming II, Tokyo Institute of Technology, Math. and Comp. Science, TA.
- 2019 ■ Programming II, Tokyo Institute of Technology, Math. and Comp. Science, TA.
- Introduction to Computer Science, Tokyo Institute of Technology, TA.
- 2018 ■ Programming II, Tokyo Institute of Technology, Math. and Comp. Science, TA.
- Information Literacy I, Tokyo Institute of Technology, TA.

Skills

- Languages ■ English (fluent), Japanese (native)
- Coding ■ OCaml (S), Scala (S), Python (S), C (A), Java (A), Ruby (A), Shell (A), R (B), SQL (C), \LaTeX (SS)
- Misc. ■ Academic research, teaching, training, consultation, \LaTeX typesetting and publishing.