

Fangyi Zhou (周方易)

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<https://github.com/fangyi-zhou>

Pronouns: **they/them**

EXPERIENCE

- Applied Scientist/Software Development Engineer** Amazon Prime Video, UK May 2023 — present
As a software development engineer, I work in the Studios AI Lab team on building an application for extracting and processing information from documents using Large Language Models (LLM).
Before Nov 2023, I worked as an applied scientist in the Automated Reasoning team on building a static analyser for TypeScript.
Skills: Amazon Web Services, Python, TypeScript, Scala, Docker, System design, DevOps, Rapid prototyping
- Research Assistant** Imperial College London/University of Oxford, UK Sep 2019 — Mar 2023
I worked in the Mobility Research Group under the supervision of Professor Nobuko Yoshida, published high-quality research papers in programming language conferences, including a distinguished paper at ECOOP '23. (Sep 2019 — Sep 2022 at Imperial, Oct 2022 – Mar 2023 at Oxford due to supervisor moved)
Skills: OCaml, Docker, L^AT_EX, Source code generation, Program verification, Research paper writing
- Graduate Teaching Assistant** Imperial College London, UK Oct 2019 — Jun 2022
- Software Engineering Intern (Industrial Placement)** Facebook, UK Apr 2018 — Sep 2018
I worked in Hack Language team on implementing new experimental language features, and in Sapienz team on improving categorisation of crashes of mobile applications.
Skills: OCaml, Python
- Undergraduate Teaching Assistant** Imperial College London, UK Oct 2017 — Mar 2018
- Research Intern** Arm, UK Jul 2017 — Sep 2017
I worked in Security Research Group on specification and verification of data structures used in hypervisor software for embedded systems.
Skills: C, Bounded Model Checking

EDUCATION

- PhD in Computing** Imperial College London Sep 2019 — Aug 2023 (Awarded Mar 2024)
Thesis Title: Refining Multiparty Session Types
Topics: Multiparty Session Types, Refinement Types, Distributed Systems, Programming Languages
- MEng in Computing** Imperial College London (1st Class Honours, Overall 86.89%) Oct 2015 — Jun 2019
Dean's List for Years 1, 2, 3 and 4
Awards: Adrian Israel Memorial Prize, Corporate Partnership Programme Prize, G-Research Ltd Prize, Corporate Partnership Programme Award, Governors' Prize (for **best overall performance**)

COURSE CERTIFICATE

- Machine Learning Specialization by Stanford University & DeepLearning.AI on Coursera. Oct 2023
- Deep Learning Specialization by DeepLearning.AI on Coursera. Nov 2023

PUBLICATION

- F. Zhou. "Refining multiparty session types". PhD thesis. Imperial College London, 2024. DOI: [10.25560/110416](https://doi.org/10.25560/110416).
- A. D. Barwell, P. Hou, N. Yoshida, and F. Zhou. "Designing Asynchronous Multiparty Protocols with Crash-Stop Failures". In: *37th European Conference on Object-Oriented Programming (ECOOP 2023)*. Vol. 263. LIPIcs. Received **Distinguished Paper Award**. 2023, 1:1–1:30. DOI: [10.4230/LIPIcs.ECOOP.2023.1](https://doi.org/10.4230/LIPIcs.ECOOP.2023.1).

- [3] A. D. Barwell, A. Scalas, N. Yoshida, and F. Zhou. “Generalised Multiparty Session Types with Crash-Stop Failures”. In: *33rd International Conference on Concurrency Theory (CONCUR 2022)*. Vol. 243. LIPIcs. 2022, 35:1–35:25. DOI: 10.4230/LIPIcs.CONCUR.2022.35.
- [4] A. Miu, F. Ferreira, N. Yoshida, and F. Zhou. “Communication-Safe Web Programming in TypeScript with Routed Multiparty Session Types”. In: *Proceedings of the 30th ACM SIGPLAN International Conference on Compiler Construction*. CC 2021. ACM, 2021, pp. 94–106. DOI: 10.1145/3446804.3446854.
- [5] N. Yoshida, F. Zhou, and F. Ferreira. “Communicating Finite State Machines and an Extensible Toolchain for Multiparty Session Types”. In: *Fundamentals of Computation Theory*. Cham: Springer International Publishing, 2021, pp. 18–35. DOI: 10.1007/978-3-030-86593-1_2.
- [6] A. Miu, F. Ferreira, N. Yoshida, and F. Zhou. “Generating Interactive WebSocket Applications in TypeScript”. In: *Proceedings of the 12th International Workshop on Programming Language Approaches to Concurrency- and Communication-centric Software*. Vol. 314. EPTCS. 2020, pp. 12–22. DOI: 10.4204/EPTCS.314.2.
- [7] F. Zhou, F. Ferreira, R. Hu, R. Neykova, and N. Yoshida. “Statically Verified Refinements for Multiparty Protocols”. In: *Proc. ACM Program. Lang.* 4.OOPSLA (Nov. 2020). DOI: 10.1145/3428216.

PROFESSIONAL ACTIVITY

- Programme Committee: ICE 2023, CC 2025
- Artifact Evaluation Committee: COORDINATION 2024
- Reviewer: PLACES 2022
- Translation: *Programming Language Foundations in Agda* (Simplified Chinese)

SKILL

Programming TypeScript, Python, OCaml, Scala ...

Languages Chinese (Mandarin), English, German, Japanese