

## Education

### The University of Texas at Dallas, 08/2022 - 05/2024(expected)

Richardson, Texas

Master of Science in **Computer Science**

#### Relevant Courses

- Advanced Computer Networks(currently enrolled)
- Discrete Structures(currently enrolled)
- System Security and Binary Analysis(currently enrolled)

### The University of Tokyo, 04/2017 - 03/2022

Tokyo, Japan

Bachelor of Science in **Electrical Engineering & Computer Science**

Studied computer science at Stanford University as an exchange student from 06/2019-08/2019

Wrote a bachelor thesis, "Type- and Sequential Effect-Guided Programming by Example," supervised by Prof. Masahiro FUJITA

#### Relevant Courses

- Algorithms
- Artificial Intelligence
- Basics In Mathematics I/II
- Computer Networks
- Computer Software I/II
- Digital Circuits
- Distributed Systems
- Electronic Information Processing Devices
- Fundamental Exercise on Programming
- Hardware Design
- Image Media Technologies
- Information Security
- Information Theory
- Introduction to Algorithms
- Introduction to Python Programming
- Introduction to Statistics
- Language Processing I
- Operating Systems
- Probability and Statistics
- Programming Languages
- Statistical Machine Learning
- Theory of Computation

## Work Experience

### Software Engineer Intern, Indeed, 06/2022 - 08/2022

Tokyo, Japan

Created a proof-of-concept data pipeline for its data infrastructure so that the data team and other teams could easily collaborate with the same API in different programming languages. The implementation allowed more people to analyze data in the company.

### Software Engineer Intern, Hatena, 02/2022 - 06/2022

Tokyo, Japan

Migrated CI/CD pipelines from Jenkins to GitHub Actions and sped them up, resulting in better production quality by improving the development cycle and increasing the number of reviews and deployments.

### Software Engineer Intern, Q-Squared Technologies, 06/2021 - 02/2022

Tokyo, Japan

Created a proof-of-concept for network acceleration. My work contributed to the decision about what the company would select as a network library for the company.

### Software Engineer Intern, Mercari, 08/2020 - 09/2020

Tokyo, Japan

Created a static analysis tool for the Go programming language.

### Software Engineer Intern, FLYWHEEL, 07/2020 - 08/2020

Tokyo, Japan

Introduced the speed layer of the lambda architecture in the corporate data platform. The new layer potentially expanded the corporate business because streaming data analytics was useful for real-time analysis.

### Software Engineer Intern, Wantedly, 08/2019 - 09/2019

Tokyo, Japan

Improved existing functions of Wantedly People, an HR application, and added new functionalities. Those new functionalities were related to user management and enabled the company to find malicious users.

## Research Experience

### "Type- and Sequential Effect-Guided Programming by Example," supervised by Prof. Masahiro FUJITA

Wrote the bachelor thesis on program synthesis. Implemented an ML-like target language in OCaml. Its synthesizer used the language's type and effect system and given examples.

## Projects

### NSA Codebreaker Challenge 2022: by myself

Currently engaged in this CTF-style security contest.

### A toy C compiler written in C itself: [ccc](#): by myself

Implemented a toy C compiler in C with a lexer, parser, and code generator. It generates x86-64 code.

### The top 3 in ICCAD 2021 CAD Contest: in teams of 6

Teamed up with other lab members and worked on the circuit generation section in B4. Wrote evaluations of methods based on our criteria, actual statistics, and goal. My main task was testing what combination of methods we should choose.

### BrainF\*\*k interpreter on Raspberry Pi written in Python: [muscle\\_f\\*\\*k](#): by myself

Implemented a Raspberry Pi application to enable people to get exercise while programming in B4

### Implementation of TCP/IP protocol with KLab: by myself

Implemented TCP/IP protocol in C with mentors and other participants as an internship project in B4.

### Implementation of bookmark functionalities to Firefox: in teams of 2

Added additional bookmark functionalities to Firefox with another member from the same department as a school project in B3. Built Firefox and modified the source code.

## Technical Skills

### Programming Languages

= { C/C++, Common Lisp/Scheme/Racket, Coq, Go, HCL, Haskell, Java/Scala/Kotlin, JavaScript/TypeScript, Nix Language, OCaml, Python3, Ruby, Rust, Shell Script, Verilog/System Verilog,  $\emptyset$  }

### Cloud Technologies

= { AWS( EC2, S3, Kinesis ), GitHub Actions, Terraform,  $\emptyset$  }

### Others

= { Data Plane Development Kit(DPDK), Docker, Flask, Flink, Kafka, Nix Ecosystem, OCamllex/Menhir, Pandas, PyTorch, React, Ruby on Rails, Spark, scikit-learn,  $\emptyset$  }

## Interests

= { Combination of Static and Dynamic Analyses, Database Management System, Formal Verification, Program Synthesis, Programming Languages, System Programming, Testing, Type Theory,  $\emptyset$  } || { Browser, Cloud, Education, FOSS, Finance,  $\emptyset$  }