

Yuma Ochi

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EDUCATION

National Institute of Technology, Kisarazu College

Apr 2021 - Current

2nd grade, Information and Computer Engineering - Chiba, Japan

GPA: 3.61/4.00, Expected Graduation: Mar 2027

- KOSEN(National Institute of Technology) is an educational program established by the government of Japan, focusing on **college-level engineering education** spanning five years.
- The 2nd grade at KOSEN is equivalent to **Grade 11**.
- Took a leave of absence from school Oct 2022 to Sep 2023 to work as a full-time software engineer.

EXPERIENCE

Turing Inc.

Chiba, Japan | Oct 2022 - Sep 2023

Full-time Software Engineer

- Worked for one year at a Japanese startup focused on manufacturing fully self-driving EVs.
- Accelerated the image processing component of the autonomous driving system using CUDA, achieving a tenfold increase in FPS from 35 to 400.
- Designed and implemented a comprehensive ML-ops pipeline, from data collection to training models and simulator-based evaluation of autonomous driving systems.
- Analyzed CAN protocol messages communicated between ECUs to investigate vehicle performance.

PROJECTS

JST Global Science Campus Experts in Information Science

Jun 2022 - Mar 2023

National Institute of Informatics (NII)

- Selected for a Research Program at NII with a 40% acceptance and completed 17 diverse computer science courses.
- Investigated comparative methods for Spiking Neural Networks (SNNs), a machine learning approach that imitates neural circuits.
- Examined the differences in learnability based on training methods for SNNs.

MITOU Target Program - [Slide\(jp\)](#)

Jun 2021 - Feb 2022

Information-technology Promotion Agency, Japan (IPA)

- Attained selection as the youngest participant in a government-backed program aimed to develop IT professionals with highly specialized skills and expertise in pioneering technology and applications.
- Developed a machine learning model that interprets data using logical operations.
- Formulated logical expression regularization as a set covering problem and proposed a solution using annealing machines.

PRIZE & ACHIEVEMENTS

Blockchain and Crypto Open Course - Institute of Information Security

Aug 2022

- Completed a **graduate-level course** on cutting-edge cryptographic techniques associated with blockchain.

Best Title, IBM Quantum Challenge Fall 2021 Oct 2021 - Nov 2021

- Implemented quantum algorithms to solve real-world problems in Finance, Nature, Machine Learning, and Optimization using quantum computers.
- Achieved the **Best Title** by solving all challenges, placing within the top 20% of over 3100 participants from 94 countries world wide.
- Experienced in executing computational jobs on IBM's quantum computer.

Silver Medal , Kaggle, G2Net Gravitational Wave Detection Sep 2021
(52nd out of 1219)

- Built a Deep Learning Model for detecting gravitational waves from the mergers of binary black holes.

1st place (about **\$250 prize**), National Medical AI Contest Mar 2021
(First out of 51)

In The 88th Annual Scientific Meeting of the Japanese Circulation Society

- Built a Deep Learning Model for myocardial infarction using raw ECG waveform data.

Best Award (about **\$3,500 prize**), Fixstars Amplify Hackathon - [GitHub](#) Feb 2021 - Mar 2021
(First out of 22)

- Proposed a Machine Learning Model for image classification utilizing annealing machines.
- Achieved an AUC score of approximately 0.95 on MNIST with training on just 30 images (3 images/class).

GCI 2020 Summer Open Course - Matsuo Lab, The University of Tokyo May 2020 - Aug 2020

- Built a Machine Learning Model for default risk in banks and proposed a new business model.

Best Award in Idea (about **\$200 prize**) at Mynavi x SIGNATE Student Cup 2019 Sep 2019 - Nov 2019
(First out of 723)

- Developed a Deep Learning Model to predict rental prices for properties in Tokyo.
- Extracted map information from latitude and longitude data to quantify nearby structures around properties.