Yuma Ochi

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EDUCATION

National Institute of Technology, Kisarazu College

3rd grade, Information and Computer Engineering - Chiba, Japan

- 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 3rd grade at KOSEN is equivalent to Grade 12.
- Took a leave of absence from school Oct 2022 to Sep 2023 to work as a full-time software engineer.

EXPERIENCE

Turing Inc. - <u>Homepage</u>

Part-time Researcher

• Researching Multi-Modal Models for Autonomous driving.

Turing Inc. - <u>Homepage</u>

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.

PUBLICATIONS

• Yuichi Inoue, Kento Sasaki, **Yuma Ochi**, Kazuki Fujii, Kotaro Tanahashi, Yu Yamaguchi, Heron-Bench: A Benchmark for Evaluating Vision Language Models in Japanese, The 3rd Workshop on Computer Vision in the Wild, CVPR 2024.

PROJECTS

JST Global Science Campus Experts in Information Science - Slide(en)

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 - <u>Slide(jp)</u>

Information-technology Promotion Agency, Japan (IPA)

Hybrid (Tokyo), Japan | Oct 2023 - May 2024

Chiba, Japan | Oct 2022 - Sep 2023

Jun 2022 - Mar 2023

Jun 2021 - Feb 2022

e software engineer.

Apr 2021 - Current GPA: 4.95/5.00, Expected Graduation: Mar 2027

- 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

 Bronze Award, 1st International Olympiad in Artificial Intelligence Selected as a member of the Japanese National Team. 	Aug 2024
• Managed a team, handling the implementation of NLP and CV tasks.	
 Blockchain and Crypto Open Course - Institute of Information Security Completed a graduate-level course on cutting-edge cryptographic techniques associated w 	Aug 2022 vith blockchain.
 Best Title, IBM Quantum Challenge Fall 2021 Implemented quantum algorithms to solve real-world problems in Finance, Nature, Machir Optimization using quantum computers. Achieved the Best Title by solving all challenges, placing within the top 20% of over 3100 countries world wide. Experienced in executing computational jobs on IBM's quantum computer. 	Oct 2021 - Nov 2021 ne Learning, and 9 participants from 94
 Silver Medal , Kaggle, G2Net Gravitational Wave Detection (52nd out of 1219) Built a Deep Learning Model for detecting gravitational waves from the mergers of binary 	Sep 2021 black holes.
 1st place (about \$250 prize), National Medical AI Contest (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. 	Mar 2021
 Best Award (about \$3,500 prize), Fixstars Amplify Hackathon - <u>GitHub</u> (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 	Feb 2021 - Mar 2021 (3 images/class).
 GCI 2020 Summer Open Course - Matsuo Lab, The University of Tokyo Built a Machine Learning Model for default risk in banks and proposed a new business mo 	May 2020 - Aug 2020 del.
 Best Award in Idea (about \$200 prize) at Mynavi x SIGNATE Student Cup 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 a 	Sep 2019 - Nov 2019 round properties.
 Grade 2, Japan Statistical Society Certificate Holded the record for being the youngest to get certified at the moment. Acquired the mathematical skills in statistics that form the foundation of data science. 	Mar 2019