Kaito Baba

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EDUCATION

The University of Tokyo, Graduate School of Information Science and Technology Tokyo, Japan
Master of Information Science and Technology; *Supervisor: Prof. Hideki Nakayama* Apr. 2025–Mar. 2027 (expected)

The University of Tokyo Tokyo, Japan
Bachelor of Engineering in Mathematical Engineering and Information Physics Apr. 2021–Mar. 2025
Supervisor: Prof. Taiji Suzuki

PUBLICATIONS

International Conference

- <u>Kaito Baba</u>, Wataru Nakata, Yuki Saito, and Hiroshi Saruwatari. The T05 System for the VoiceMOS Challenge 2024: Transfer Learning from Deep Image Classifier to Naturalness MOS Prediction of High-Quality Synthetic Speech. IEEE Spoken Language Technology Workshop (SLT), 2024

Workshop

- <u>Kaito Baba</u>, Ryota Yagi, Junichiro Takahashi, Risa Kishikawa, and Satoshi Kodera. JRadiEvo: A Japanese Radiology Report Generation Model Enhanced by Evolutionary Optimization of Model Merging. NeurIPS 2024 Workshop on AIM-FM: Advancements In Medical Foundation Models: Explainability, Robustness, Security, and Beyond

- Junichiro Takahashi, Yasukawa Kan, <u>Kaito Baba</u>, and Satoshi Kodera. Application of Contrastive Learning on ECG Data: Evaluating Performance in Japanese and Classification with Around 100 Labels. NeurIPS 2024 Workshop on AIM-FM: Advancements In Medical Foundation Models: Explainability, Robustness, Security, and Beyond

Article

- <u>Kaito Baba</u>. [Optuna v4.2] Gaussian Process-Based Sampler Can Now Handle Inequality Constraints. Medium, 2025

Domestic Conference

- <u>Kaito Baba</u>, Wataru Nakata, Yuki Saito, and Hiroshi Saruwatari. UTMOSv2: Integrated Use of Spectrogram and SSL Features for Naturalness MOS Prediction. Acoustical Society of Japan Autumn Meeting, 2024

AWARDS AND HONORS

- Jul. 2024 4 solo bronze medals in Kaggle competitions
  - Won 4 solo bronze medals so far in Kaggle, the world's largest machine learning competition.

Jun. 2024 **1st place** in 7 out of 16 metrics and **2nd place** in the remaining 9 metrics in the VoiceMOS Challenge 2024 Track1
  - Took the above ranking in a global competition to create a machine learning model to predict the naturalness MOS of synthetic speech.

Mar. 2024 **1st Place**, Hackathon by AIFUL (aihack2024)
  - Developed a machine learning model for predicting the credit score of individuals.

Oct. 2023 Special Prize, **3rd Place**, Hackathon by LIFECARD
  - Created a machine learning model for credit scoring.

Sep. 2023 **World Rank 3**, CodinGame Othello AI competition
  - Developed an AI for the game of Othello (Reversi) by combining deep reinforcement learning and heuristic search algorithms.

Mar. 2023 Special Prize, **4th Place** in the final round, Hackathon by SoftBank
  - Developed a web application integrated with object detection AI.

WORK EXPERIENCE

Preferred Networks Inc. Tokyo, Japan
Part-time Engineer Jul. 2024–Present
- Developing Optuna, an hyperparameter optimization library, as part of the AutoML team.

The University of Tokyo Hospital Tokyo, Japan
Technical Staff (Part-time) May. 2024–Present

- Conducting research and development of medical AI in collaboration with physicians.

SIGNATE Inc. Tokyo, Japan
Educational Content Creator, LLM Advisor Dec. 2023–Jul. 2024
- Created materials on RAG (Retrieval-Augmented Generation) and prompt engineering as an LLM Advisor.
- Created educational materials on GPT, prompt engineering, data analysis, and algorithms.

kuzen Inc. Tokyo, Japan
Front-End & Back-End Engineer (Internship) Nov. 2023–Apr. 2024
- Involved in front-end and back-end implementation, as well as the development of a RAG system using LangChain.

Recruit Co., Ltd Tokyo, Japan
Datascientist (Internship) Oct. 2023–Dec. 2023
- Worked in the Search Group of the Data Promotion Office, developing a RAG system to improve the internal document search experience.

The University of Tokyo Edge Capital Partners Co., Ltd. Tokyo, Japan
Research Assistant Jul. 2023–Apr. 2025
- Conducted data collection, analysis, and predictive model creation for investors.
- Developed a system for an internal tool.

LearnWiz Inc. Tokyo, Japan
Front-End Engineer (Outsourcing) Mar. 2023–Sep. 2023
- Carried out front-end implementation and proposed UI/UX design for web applications.

GHELIA Inc. Tokyo, Japan
AI Developer (Internship) Jan. 2023 - Sep. 2023
- Conducted research and development in deep learning related to image recognition.

OTHER EXPERIENCE

National Tsing Hua University Hsinchu, Taiwan
Short-term Exchange Program (Master Course) Feb. 2025–Mar. 2025
- Department of Industrial Engineering and Engineering Management
- Worked with Prof. Wing-Kai Hon
- Conducted research on efficient algorithm design

TECHNICAL SKILLS

- Deal with:
  - Deep learning, machine learning, reinforcement learning, algorithm, front-end, back-end, and iOS app development

- Programming Languages and frameworks:
  - Advanced:
    Rust, Python, PyTorch, TensorFlow, TypeScript, JavaScript, React, Next.js, HTML/CSS, C, C++, bash, Swift, Go, Google Apps Script, R, SQL, Lean 4
  - Intermediate:
    Haskell, OCaml, Scheme, Assembly (RISC-V), Fortran, Verilog, C# (Unity), Julia, Java, and Kotlin
- Other:
  - Git/GitHub, Docker, AWS, GCP, Linux, GitHub Actions, GraphQL, Terraform, Arduino, Raspberry Pi, etc.

CERTIFICATIONS

- Deep Learning for ENGINEER Certified by JDLA (Japan Deep Learning Association) (2023)
- The SUKEN Test in Mathematics Proficiency Grade 1 (2022)
- The EIKEN Test in Practical English Proficiency Grade Pre 1 (2020)