

# Kaito Baba

Email: [k.ai.to47802@gmail.com](mailto:k.ai.to47802@gmail.com), [baba-kaito662@g.ecc.u-tokyo.ac.jp](mailto:baba-kaito662@g.ecc.u-tokyo.ac.jp)  
Homepage: <https://kaito47802.github.io>  
GitHub: <https://github.com/kAIto47802> Google Scholar: [oJvSC5wAAAAJ](https://scholar.google.com/citations?user=oJvSC5wAAAAJ)

## EDUCATION

---

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

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

## PUBLICATIONS

---

★: Featured publications

### International Conference Proceedings (Refereed)

- Daichi Sato, Duc Minh Vo, Khan Md. Anwarus Salam, Hidenori Shoji, Yuma Matsuoka, Takara Taniguchi, [Kaito Baba](#), and Hideki Nakayama. LAVA Challenge 2025: Advancing Japanese Document Understanding with a Challenging PDF-VQA Benchmark. *The 33rd ACM International Conference on Multimedia*, 2025.
- ★ [Kaito Baba](#), 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 Papers at International Conferences (Refereed)

- ★ [Kaito Baba](#), Chaoran Liu, Shuhei Kurita, and Akiyoshi Sannai. Prover Agent: An Agent-Based Framework for Formal Mathematical Proofs. *ICML Workshop on AI for Math*, 2025.
- [Kaito Baba](#), Ryota Yagi, Junichiro Takahashi, Risa Kishikawa, and Satoshi Kodera. JRadiEvo: A Japanese Radiology Report Generation Model Enhanced by Evolutionary Optimization of Model Merging. *NeurIPS Workshop on AIM-FM: Advancements In Medical Foundation Models: Explainability, Robustness, Security, and Beyond*, 2024.
- Junichiro Takahashi, Yasukawa Kan, [Kaito Baba](#), and Satoshi Kodera. Application of Contrastive Learning on ECG Data: Evaluating Performance in Japanese and Classification with Around 100 Labels. *NeurIPS Workshop on AIM-FM: Advancements In Medical Foundation Models: Explainability, Robustness, Security, and Beyond*, 2024.

### Articles

- [Kaito Baba](#). [Optuna v4.5] Gaussian Process-Based Sampler (GPSampler) Can Now Perform Constrained Multi-Objective Optimization. *Medium*, 2025.
- [Kaito Baba](#). [Optuna v4.2] Gaussian Process-Based Sampler Can Now Handle Inequality Constraints. *Medium*, 2025.

### Domestic Conference Proceedings

- Daichi Sato, Duc Minh Vo, Khan Md. Anwarus Salam, Hidenori Shoji, Yuma Matsuoka, Takara Taniguchi, [Kaito Baba](#), and Hideki Nakayama. LAVA Challenge: Benchmarking Japanese-English Document Understanding with Large Vision-Language Models. *28th Meeting on Image Recognition and Understanding (MIRU)*, 2025.
- [Kaito Baba](#), 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

---

- Aug. 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** in Hackathon by AIFUL (aihack2024)
  - Developed a machine learning model for predicting the credit score of individuals.
- Oct. 2023 Special Prize, **3rd Place** in Hackathon by LIFECARD
  - Created a machine learning model for credit scoring.

- Sep. 2023 **World Rank 3** in 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 in 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  
*Technical Advisor, Educational Material Creator (Outsourcing)* Dec. 2023–May. 2024
- Created materials on RAG (Retrieval-Augmented Generation) and prompt engineering as an LLM Advisor.
  - Created educational materials on data analysis, LLM usage, algorithms, optimization, etc.
- kuzen Inc.** Tokyo, Japan  
*Full-stack 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. (UTEK)** Tokyo, Japan  
*Research Assistant* Jul. 2023–Apr. 2025
- Conducting data collection, analysis, and predictive model creation for investors.
  - Developing a system for an internal tool.
- LearnWiz Inc.** Tokyo, Japan  
*Font-end Engineer (Outsourcing)* Apr. 2023–Sep. 2023
- Carried out front-end implementation and proposed UI/UX design for web applications.
- GHELIA Inc.** Tokyo, Japan  
*AI Researcher (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, reinforcement learning, front-end development, back-end development, etc.
- Languages and Frameworks:
  - Advanced: Rust, Python, PyTorch, TensorFlow, TypeScript, JavaScript, React, Next.js, HTML/CSS, C, C++, bash, Swift, Go, Google Apps Script, and R
  - Intermediate: Haskell, OCaml, Scheme, Assembly (RISC-V), SQL, Fortran, Verilog, C# (Unity), Julia, Java, and Kotlin
- Tools:

– 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)