Naoto Iwase

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EDUCATION

Bachelor of Medicine (M.D. Candidate) Apr 2021 – Present
Nagoya University Nagoya, Japan
- Ranked first in entrance exams.
- Delivered the matriculation address as freshman representative.

PROFESSIONAL EXPERIENCE

Part-time Engineer Jul 2025 – Present
Preferred Networks, Inc. Tokyo, Japan
- Built MedRECT, the first bilingual medical error correction LLM benchmark.
- Developed early prototypes of LLM agents for drug discovery.

Technical Assistant Oct 2023 – Jun 2025
Institute of Science Tokyo (formerly Tokyo Medical and Dental University) Tokyo, Japan
Computational Systems Biology Lab
- Built an innovative model integrating GATv2 and Transformers with the GigaPath ViT foundation model to predict cell niches and gene expression from H&E images. This approach significantly boosted niche classification accuracy from 72.5% to 86% and surpassed four existing gene prediction benchmarks.
- Implemented SQ-VAE/HQ-VAE for hierarchical cell-state clustering and multi-task learning (predicting Cox survival and gene expression) on 600+ TCGA pathological slides.

FIRST-AUTHOR WORKS

Reliable Chain-of-Thought via Prefix Consistency May 08, 2026
arXiv:2605.07654. Supervised by Prof. Komiyama at MBZUAI.
TL;DR: Correct Chain-of-Thought traces reproduce their answer under prefix regeneration more often than wrong ones, and weighting majority voting by this prefix consistency reaches plateau accuracy at up to 21x fewer tokens (median 4.6x).

MedRECT: A Medical Reasoning Benchmark for Error Correction in Clinical Texts Nov 01, 2025
arXiv:2511.00421. Supervised by Dr. Iwasawa (Preferred Networks/NVIDIA).
TL;DR: A bilingual (Japanese/English) benchmark for medical error correction built from licensing exams; across 9 LLMs, reasoning models substantially outperform standard architectures, and a fine-tuned model exceeds human expert performance.

PRESENTATION

A Deep Learning Model to Estimate Cell Niches from H&E Pathological Images Sep 2024
ECCB2024 (23rd European Conference on Computational Biology)
- Poster Presentation

AWARDS

Student Presentation Award (Oral) May 24, 2024
The 38th Annual Meeting of the Japanese Society of Computational Statistics
- Title: A Deep Generative Model for Integrating Cell Niches and Clinical Information

Top Performance Award Jan 13, 2025
Statistics Proficiency Test Pre-1st Grade

PERSONAL PROJECTS

IgakuQA119 Mar 2025 – Apr 2025
Japanese Medical License Exam LLM benchmark
- Solely architected and released a comprehensive OSS benchmark suite in just 2 weeks. Features include a multimodal evaluation pipeline, automated grading system, and compatibility with both API-based and local LLMs.
- Used as a harness to quantify CPT(Continual Pre-Training)/SFT(Supervised Fine-Tuning) effects for a 32B model and analyze error patterns automatically.

SKILLS

- Programming Languages: Python (expert)
- ML & Data Science: PyTorch, Transformers, TRL, PEFT/LoRA, vLLM, NumPy, pandas, scikit-learn, SciPy
- Infra & Tools: Docker, Kubernetes, Argo Workflows, Git, Linux, LaTeX

LANGUAGES

Japanese — Native **English** — Proficient

Last Updated: May 22, 2026