



Chijing Wang 王 馳景

PhD Candidate, Sleep Science & Biosignal AI — University of Tokyo

Tokyo, Japan | shizukurocalicocat@gmail.com | wang.chijing@s.h.k.u-tokyo.ac.jp
chijing-wang.com | Google Scholar | github.com/ChijingWang | LinkedIn

■ PROFILE

PhD candidate at the **University of Tokyo (HeiLab)**, advised by Prof. Shin'ichi Warisawa and Assoc. Prof. Yuki Ban. Research develops quantitative indicators of sleep quality by integrating biosignals (EEG, ECG, EDA, respiration) with AI modeling, and adaptive control of the sleep environment (e.g. air conditioning) to regulate thermal comfort and improve overnight recovery. Brings hands-on AI-engineering experience (RAG systems, multimodal biosignal pipelines, VLM-based computer vision) from four industry internships and an industry-academia joint research project, and is a team member of the early-stage startup **Elephane** (embodied AI, next-gen wearable sensing). Interests: sleep science, human-computer interaction, biosignal analysis, AI-driven healthcare.

■ EDUCATION

Ph.D. Candidate, Environmental Engineering — The University of Tokyo 2024.10 – Present

Research: quantification of sleep quality and cognitive recovery using biosignals (EEG, ECG, EDA, RESP) and AI modeling.

M.Sc., Environmental Engineering — The University of Tokyo 2022.10 – 2024.09

Thesis: estimating daytime productivity using sleep biosignals with reduced feature complexity.

B.Sc., Mechanical Engineering — Tokyo Metropolitan University 2018.04 – 2022.09

Thesis: seamless measurement of upper-limb muscle strength in elderly people using a smart grip device.

■ EXPERIENCE

Industry-Academia Joint Research (Computer Vision) — The University of Tokyo 2026.04 – Present

With a road-infrastructure company; results unpublished, details confidential.

- Building a training-free segmentation pipeline for infrastructure-inspection photos: each new equipment type is added with a few annotated examples instead of a labelled dataset and retraining.
- Pairs few-shot vision-language-model (VLM) localization with SAM 2.1 segmentation; an automatic check re-selects or rejects unreliable masks before downstream condition assessment.
- Hardened VLM output parsing against format mismatches and truncated replies, with automatic retries.

Sleep Advisor — Lavie Innovations Pte. Ltd. 2026.07 – 2026.09

- Helped launch an employee sleep-health monitoring program for corporate clients (part-time, remote).

Data Scientist — Matsuo Institute, Inc. 2025.06 – 2026.06

- Developed algorithms to quantify and visualize the relationship between employees' in-office movement/behavior patterns and work productivity.
- Formulated hypotheses grounded in prior research on long-term, large-scale experimental data; iterated statistical validation to derive insights for office design and employee performance.
- Worked closely with the client to align analysis goals/direction, tying results to practical business needs. Results presented at JSAI 2026.
- Joint research with Itoki featured in a press release (July 2026).

AI Engineer — Metatech, Inc. 2024.12 – 2025.09

- Built an AI reception system combining AI with metaverse technology to address service-industry labor shortages.
- Implemented per-use-case database switching (hotels, tourist spots, schools, etc.) and voice-recognition inquiry handling + facility guidance. Demo exhibited at the Teamz Web3 Summit (Apr 2025).

Research Assistant — RIISE, The University of Tokyo 2024.04 – 2026.06

Research Institute for an Inclusive Society through Engineering — Co-creation Space Design Project: realizing restful sleep environments.

- Analyzed multiple sleep biosignals (ECG, EDA, respiration, body movement) to quantitatively clarify conditions for high-quality sleep that improves next-day productivity.
- Developed and validated a real-time, biosignal-driven automatic air-conditioning control system. Presented results at 5 international and 3 domestic conferences.

Algorithm Development Intern — Healthcarevision, Inc.

2023.09 – 2024.09

- Developed a non-invasive optical blood-glucose measurement algorithm: illuminate a fingertip, use the reflected-light spectrum from blood vessels as training data, build an ML model that estimates blood glucose without needles.
- Achieved estimation accuracy within $\pm 15\%$; the device featuring this algorithm was exhibited to acclaim at CES 2024.

Team Member — Elephane (elephane.ai)

2025 – Present

Early-stage startup across two verticals.

- GEO/AI-era web services for brand visibility in LLM search, and embodied-AI hardware (AI glasses, BCI wearables).
- Lead the sensing & physiological-signal-processing direction.

COMPETITIONS

Team Leader — Team Mikki, 9th UTokyo Data Science Contest

2026.06 – 2026.09

Industry-sponsored contest, UTokyo Mathematics and Informatics Center — Special Award among 20+ teams.

- Led the team for 3 months through data analysis, business proposal and user interviews on how brands should choose character IPs for collaboration products, using consumer-survey data from ADK Marketing Solutions.
- Built an explanatory Rasch (item response theory) model separating individual purchase propensity from IP-level purchase hurdles; validated on a held-out survey year.
- Developed "Mikki Copilot", an AI agent that lets planners compare IP candidates in conversation with cited answers; proposed the business value and a pilot plan informed by practitioner interviews.

SELECTED PUBLICATIONS

INTERNATIONAL (FIRST AUTHOR)

1. Wang C, et al. "Differential Contributions of Physiological Features Across Early, Mid, and Late Sleep Phases to Next-Morning Cognitive Performance." *BIOSIGNALS* 2026.
2. Wang C, et al. "Closed-Loop Air Conditioning Based on Physiological Signals to Mitigate Thermal Stress During Sleep: A Pilot Study." *Augmented Humans Intl. Conf. (AHs 2026)*, Okinawa, Japan.
3. Wang C, et al. "Estimating Daytime Productivity from Sleep-Time Biosignals with a Reduced Feature Set." *World Sleep*, 526, 2025.
4. Wang C, et al. "Constructing a Transformer-Based Model to Infer Daytime Productivity from Biometric Information During Sleep." *Human Systems Engineering and Design* 158 (2024): 175.
+ 4 domestic conference talks (JSAL, IPSJ, JSSR).

AWARDS & HONORS

- **Special Award**, 9th Data Science Contest, UTokyo Mathematics and Informatics Center **2026**
- **Young Investigator Award**, Asian Society of Sleep Medicine **2025**
- **Ajinomoto Scholarship** **2025–2026**
- **Non-invasive Blood Glucose Monitoring demo**, CES 2024 (Healthcare Vision Inc.)
- **Best Presentation Award**, AWS Robot Delivery Challenge (Customization) **2021**
- **Monbukagakusho Honors Scholarship**, JASSO **2018–2019 & 2016–2017**
- **Finalist (Top 16)**, Ichu Cup English Debate Tournament **2019**
- **National Olympiad in Informatics in Provinces**, China **2014**

SKILLS

Languages	Chinese (Native), Japanese (Business), English (Business)
Programming & AI	Python, PyTorch, TensorFlow, scikit-learn, MATLAB, R, C++; signal processing, time-series analysis; LLM / Hugging Face API; RAG system design (chunk optimization; vector DBs: Chroma / FAISS / Pinecone / pgvector); multimodal biosignal fusion & real-time acquisition (Biosignalsplux); computer vision (SAM 2.1 segmentation, few-shot VLM prompting)
Tools & Platforms	Git/GitHub, Jupyter, VS Code; Unity, OpenCV, TouchDesigner; Firebase, AWS (Polly, S3), Google Colab; Photoshop, Canva
Soft Skills	English debate (Ichu Cup top 16 & 8); research presentation & poster creation; interdisciplinary teamwork & project management