

Satoru Akita

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SUMMARY

- Software Engineer specializing in edge–cloud integrated AI systems and distributed architectures.
- Experienced in designing and deploying production-grade ML solutions, including LLM-assisted system automation, in edge–cloud environments.
- Strong background in system architecture, multi-camera distributed systems, and enterprise technical collaboration in Japanese and English.

SKILLS

Languages: Python, C/C++, TypeScript, JavaScript, Bash

ML / AI: PyTorch, TensorFlow, OpenCV, MediaPipe, Computer Vision, 3D sensing

Cloud & Infrastructure: Azure, AWS, GCP, Docker, CI/CD, MLOps pipelines

Specialization: Edge-Cloud hybrid systems, Distributed architecture, Data structures & algorithms

Soft Skills: Solution Scoping & Feasibility Analysis, On-site Technical Diagnostic & Requirement Engineering, Hardware-Software Integration Strategy, Technical event operations

EXPERIENCE

AI Solutions Engineer / Architect | *Sony Semiconductor Solutions, Tokyo* Jan 2023 – Present

Edge AI Sample Applications

- Led a 6-engineer team to develop **9 enterprise-grade Edge AI sample apps**, adopted in exhibitions, national demos, and enterprise briefings.
- Released cross-border OSS project (**Raspberry AI Camera**) in collaboration with Lund (Sweden) and Raspberry Pi Foundation.
- Improved cloud integration reliability via REST API–based sample apps with Midokura (Spain).

Edge–Cloud AI Deployment

- Led software implementation of distributed AI systems, coordinating **5 engineers and 5 cross-functional members** (sales, electrical, client support).
- Deployed **multi-camera edge–cloud AI systems (10+ cameras per site)** adapting to bandwidth, device compute limits, and environmental constraints.
- Delivered AI solutions: vehicle license plate recognition, digital signage impact measurement, shelf vacancy detection, and in-store traffic heatmap visualization.
- Enabled enterprise AI engagements across **8+ major clients** (logistics, retail, mobility).

Generative AI & Engineering Productivity

- Led development of internal **generative AI MCP server**, building prototypes, demos, and a 5-engineer team to release production-ready OSS code.
- **Reduced API migration workload by 80%** (V1 → V2) using LLM-assisted automation scripts.

Edge AI Embedded Engineer | *Sony Semiconductor Solutions, Tokyo* Jan 2020 – Dec 2022

- **Developed IMX500 SDK and application demos** as a first-generation Edge AI engineer, **supporting enterprise technical adoption** of Sony's inaugural AI image sensor
- **Designed and operated full-stack on-premise camera systems**, conducting circuit reviews, SoC research, hardware validation, and deployment support

Computer Vision / ML Engineer (3D Sensing) | *Sony Semiconductor Solutions, Tokyo* Apr 2019 – Dec 2019

- **Pioneered internal ToF ML use case**, independently building **46-class sign language recognition system (98% accuracy, 15 FPS)**; designed depth + facial landmark fusion pipeline from data collection to deployment
- **Led ML development for ToF + RGB 3D pose estimation system** showcased at CES

EDUCATION

M.S. in Robotics

Tohoku University, 2017–2019

MEMS sensors, semiconductor processes, data utilization, machine learning

B.S. in Mechanical Engineering

Tohoku University, 2013–2017

Robot contests, Programming work (particle simulation with C++ & OpenGL), Aerospace/Genetic/Control engineering

CERTIFICATIONS

Google Certified Professional - Cloud Architect

TensorFlow Developer Certificate

AWS Solutions Architect - Associate

Azure AI Engineer Associate

Registered Information Security Specialist

AWARDS & PUBLICATIONS

SecHack365 (2019)

NICT-sponsored 1-year security hackathon program. Built Fasttext AI to visualize emotional transitions from Twitter posts. Selected for SXSW (Austin) and won an award at the on-site hackathon.

Grand Prize, BIOMOD 2015

International biomolecular design competition, Harvard University

Third Prize, iCAN'14

Global embedded systems competition - Developed earthquake-responsive bookshelf divider system

Published Papers:

Froemel, J., Akita, S., et al. (2020).

Micromachines (MDPI)

Uchida, T., Akita, S., et al. (2017). *Small* (Wiley)

LEADERSHIP

Founding Member

Whole Brain Architecture Young Researchers (Tohoku Chapter, 2018)

SW Conference/Event Operations

SRE NEXT, Open Source Summit Japan, SecHack365

Gemini API Hackathon

Mentor in collaboration with Google AI Student Ambassadors