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