

# 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 SDK and first-generation Edge AI demos for Sony's IMX500, supporting enterprise evaluation and adoption.
- Served as technical lead for 2 exhibition implementations, overseeing system deployment, live operation, and on-site client briefings.
- Designed and operated full-stack on-premise camera systems (circuit reviews, SoC research, hardware validation), enabling real-world deployment planning.

**Computer Vision / ML Engineer** | *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