

RAHUL MITRA

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EDUCATION

National University of Singapore

Bachelor of Engineering, Industrial Systems Engineering

Singapore

Aug 2023 – Jul 2027

- Pursuing a Second Major in Computer Science and a Minor in Mathematics.
- Awarded Certificate of Outstanding Performance in 3D Computer Vision (CS4277): top student in a class of 24, NUS School of Computing.

EXPERIENCE

STMicroelectronics

Operations Research (NUS System Design Project), Contract

Singapore

Aug 2026 – Present

- Build an AI-driven put-away recommendation system for STMicroelectronics' Singapore warehouse, combining picking history, demand forecasts, and live capacity to replace experience-based slotting decisions.

Amazon

Robotics Vision Engineer (Blended AI+X)

Singapore

Jul 2026 – Present

- Build vision systems for camera ISP enhancement, super-resolution, and image restoration under motion and low light.

Abbott Laboratories

Operational AI Systems & Data Engineer (Contract)

Singapore

Jun 2026 – Present

- Build an air-gapped process-intelligence platform for globally distributed spray-drying plants, spanning GPU OCR and layout parsing, recursive chunking, ONNX embeddings, a Chroma vector store, and LangChain over a locally hosted quantized Gemma model.

Abbott Laboratories

Data Analytics and Project/Product Management Intern

Singapore

Jan 2026 – Jun 2026

- Developed a SimPy discrete-event digital twin and OR-Tools CP-SAT optimizer for hybrid flow-shop scheduling, translating production objectives and constraints into decision-ready schedules.
- Productionized a team-built APC simulator for live manufacturing and engineer training, packaging it in Docker and deploying it to Azure App Service.

People's Association

Software Engineer (Citizen Developer)

Singapore

Sep 2025 – Sep 2026

- Delivered a digital garden-plot balloting platform from admin and public frontends through backend, GIS mapping, and deployment, now production-ready for national rollout across Singapore.
- Integrated Singpass Login (OIDC) and Myinfo for passwordless authentication and consent-based retrieval of verified identity and registered address, automating resident eligibility checks.

Republic of Singapore Navy

Base Support Assistant

Singapore

Jan 2022 – Jan 2023

- Compressed a six-month food-waste analysis cycle into a sub-three-minute reporting process with an Excel VBA automation workflow inside a security-constrained environment.

PROJECTS

OnTheSpectrum: Codex & Blender MCP 3D Pipeline

May 2026

- Built a local-first Blender-to-Three.js asset pipeline using Codex and Blender MCP, generating GLB assets, metadata, previews, playable-world QA, and Remotion video workflows.

Hailo Edge AI Training and Deployment

Mar 2026

- Trained and deployed OCR and object-detection models to Hailo edge accelerators, building the training and experimentation workflows around on-device inference and model acceleration.

Volt Pulse SG: SMU Hack For Cities 2026 (Top 8 Finalist of 50+ teams)

Jan 2026

- Built an agentic AI system for tracking HDB household energy costs using SEALION embeddings, Supabase vector search, RRF routing, and scheduler-agent planning.

Waaah Comics: 24-Hour Gesture-to-Comic Build

Jan 2026

- Built a gesture-to-comic pipeline in a 24-hour sprint, turning MediaPipe 3D hand landmarks into generated comic strips with Gemini 2.0 Flash, Veo 3, and Konva.js canvas tooling.

LEADERSHIP AND ACTIVITIES

NTUC Health Active Ageing Centre

Elderly Care Volunteer

Singapore

Sep 2025 – Present

- Support weekly senior-engagement activities, deepening empathy for healthcare, accessibility, and human-centered community product design.

SKILLS AND CERTIFICATIONS

Technical: Python, TypeScript, React, Next.js, Three.js, FastAPI, aiohttp/asyncio, PyTorch, ONNX, Docker, CI/CD, Azure; 3D CV: projective & epipolar geometry, absolute pose, SfM, bundle adjustment, multi-view stereo

Certifications: NVIDIA Disaster Risk Monitoring with Satellite Imagery; Deep Reinforcement Learning Hands-On (Packt)