

BERNARDINUS MATTEO WOENARDI

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EDUCATION

Singapore Management University, BSc in Computer Science *Aug 2023 – May 2027 (Expected)*

- Cumulative GPA: 3.56/4.0
- CCAs: President - SMU Komunitas Indonesia, Clarinetist - SMU Symphonia, Pianist - SMU Ivory Keys
- Relevant modules: Machine Learning, Artificial Intelligence, Data Management, UI/UX, Discrete Mathematics, Linear Algebra, Data Science, Statistics, Data Structures & Algorithms, Embedded Systems, Operating Systems

EXPERIENCE

Student Assistant (Automation), SMU Academy *Nov 2025 – Present*

- Responsible for automating complex operations-related workflows with Power BI, Power Automate, and Python

Software Intern, KABAM Robotics *May – Aug 2025*

- Contributed significantly to the SMART+ robot management platform's 5.1 release, using React and Redux to resolve 35 bugs, deliver 33 new features, and build 6 Proof-of-Concepts (POCs) across 7 sprints
- Engineered 3D visualization for live CCTV footage using Three.js and React Three Fiber, including automation of real-time RTSP to HLS stream conversion pipeline with GStreamer, Bash scripts, and a Python web server
- Prototyped and delivered 6 Proof-of-Concepts (POCs). Key projects include language localization using react-i18n and frontend web analytics integration with Grafana FARGO

Research Assistant, M3S – Singapore-MIT Alliance for Research and Technology *Sep 2024 – May 2025*

- Developed TNE (<https://tne-woad.vercel.app/>), a public digital repository for urban transportation-related research, enabling seamless access to data using Next.js, FastAPI, Supabase, Docker, and AWS
- Architected a scalable AWS cloud data pipeline to automate complex data processing workflows using API Gateway, Lambda, Step Functions, Batch, DynamoDB, IAM and S3 with Supabase integration
- Refactored data processing logic by reducing lines of code by 30% and improving modularity

PROJECTS

Emergency Dispatch App

- Engineered a multi-service application for patient emergency triage and dispatch, integrating AWS RDS/SNS, Stripe for billing, and the Google Maps API for nearest hospital routing
- Implemented a full CI/CD pipeline in GitLab, enforcing quality and security checks via static analysis, unit testing, integration testing, and security scans before Docker image artifact creation
- Managed scalable deployment to Kubernetes using Horizontal Pod Autoscaler (HPA), automated setup via custom scripts, and ensured GitOps compliance for continuous deployment with ArgoCD

Signify, <https://github.com/mattw23n/signify>

TikTok TechJam 2024 People's Choice Award Winner (Southeast Asia)

- Built a mobile application leveraging generative AI to empower deaf and sign language content creators by translating Word-Level American Sign Language (WLASL) into real-time subtitles
- Developed backend infrastructure with Django, handling media pipeline for efficient sign language translations
- Designed and built mobile application pages using React Native and Expo to create an intuitive user experience
- Collaborated using Agile practices on Jira to prioritize tasks, track progress, and deliver iterative improvements

CERTIFICATION

Google IT Automation with Python

- Completed 6 different courses on IT automation involving Python, Git, and Bash on Google Cloud

SKILLS & INTERESTS

Languages: Bahasa Indonesia (Native), English (Fluent), Chinese (Limited Working Proficiency), Dutch (Limited Working Proficiency), Korean (Elementary Proficiency)

Skills: Java, Python, C, JavaScript, SQL, PostgreSQL, HTML, CSS, Git, Bash, React, Next.js, Tailwind CSS, Django, FastAPI, Expo, Node.js, Three.js, Kubernetes, Docker, ArgoCD, Google Cloud, AWS, Jira, Android Studio, GitLab