BENEDICT ISAAC

MECHATRONICS ENGINEERING STUDENT | AGENTIC AI, EMBEDDED SYSTEMS & ROBOTICS

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PROFESSIONAL SUMMARY

Mechatronics Engineering student building agentic AI systems from cloud to edge. Developing ESN-PRISM, an edge-native recognition and security monitoring system, and researching agentic architectures for robotics through the ECAPs hardware initiative. Backed by full-stack experience shipping production systems, leading technical teams, and teaching embedded systems to young students, with a systems-first approach to hardware-software integration.

SKILLS

EMBEDDED & ROBOTICS SYSTEMS: IoT Systems & Automation, Embedded Programming (C/C++), Control Systems Logic, MATLAB, Simulink, Proteus, OpenCV
AI & COMPUTER VISION: Computer Vision, LLM Orchestration (Llama 3.3, Gemini, Groq), Agentic AI Workflows, Prompt Engineering, Edge AI Deployment
SOFTWARE & SYSTEMS: Python, JavaScript/TypeScript, FastAPI, React/Next.js, Git/GitHub, PostgreSQL.
CORE COMPETENCIES: System Design Thinking, Problem Solving & Debugging, Technical Documentation, Technical Team Leadership, Open-Source SDK Design.

PROJECTS

ESN-PRISM | Edge-Native Recognition & Security Monitoring.

Built an edge-native computer vision system for real-time recognition and security monitoring, integrating a lightweight LLM reasoning layer alongside live gesture-based control, engineered to run smoothly on constrained hardware with no dedicated GPU.
Tech Stack: Python, Computer Vision, Edge AI, LLM (via Groq), Gesture Recognition
Key Impact: Build complete and in testing; runs live on a Core i5 laptop with no dedicated GPU.

ECAPs | Edge Computing Agentic Processors (*active research*)
Designing a plug-and-play edge AI hardware product built on a five-layer agentic intelligence stack, bringing on-device agentic compute to robotics, engineering systems, and locally accessible deployments. Currently at concept, architecture, and simulation-first prototyping stage.
Techniques: Edge Computing, Agentic AI Systems Design, Hardware Architecture

Research | Agentic Architectures in Robotics & Engineering Systems (*active research*)
Researching how layered agentic AI structures can be applied to robotics and engineering systems, and prototyping an agentic engineering structure, with ECAPs as the reference architecture.
Techniques: Agentic AI Systems Design, Robotics Systems Integration, Edge Computing

OpenAtlas | GPU-Served Inference Stack for Nigerian-Language AI

Led a four-person team building the deployment stack behind an open SDK for the N-ATLaS model: a FastAPI inference server on an AMD MI300X (ROCm) GPU for LLM and speech recognition, fronted by a Cloudflare Worker gateway with hashed API keys and rate limits, plus a Docker and free-GPU notebook path for self-hosting.
Tech Stack: Python, FastAPI, Docker, ROCm, Cloudflare Workers, TypeScript
Key Impact: Published @openatlas/sdk on npm; verified end-to-end against the live model

PROFESSIONAL EXPERIENCE

Embedded Systems Intern **Sep 2026 - Current**
Waste2Light *Minna, NG*

- Part of a team working on clean energy (wind and hydro), embedded-systems STEM kit development for young students, and school outreach.
- Built a component-selection and pricing site for the “green corner”, where schools choose embedded components and units and get a price.

Front Desk Officer **Mar 2026 - Current**
NIHUB, FUTMinna *Minna, NG*

- Serve as first point of contact at NIHUB, FUTMinna's tech innovation hub, run in partnership with Huawei, Cisco, Microsoft, and Google, guiding students toward the right training or certification track.
- Assess visitors' backgrounds and interests to route them into the pathway that fits their goals.

Programs Management Team Lead **Present**
GDGoC FUTMinna & American Spaces, Minna

- Lead the programs management team.
- Previously Management Team Member (2025/26): organized events, managed the community, and helped grow the ecosystem.

Technical Lead **Jun 2026 – Present**
AWS Student Builder Group *Minna, NG*

- Lead weekly virtual workshop series, taking student builders from account setup to deployed cloud projects.
- Designed a phased curriculum (Foundations, Real Applications, Specialisation tracks, Capstone) that turns AWS services into use-case exercises for early-career developers

Technical Lead **May 2026 - Current**
Blockchain Club FUTMinna *Remote*

- Lead the club's technical direction and mentor student developers in smart contract development and Web3 fundamentals.
- Authored the technical curriculum across EVM/Solidity, Sui/Move, Aptos/Move, and Solana/Rust.
- Designed and built the club's community platform.

Full-Stack Developer **Mar 2026 - Current**
LagosRhythm *Remote*

- Engineer backend services and system integrations for a tourism-tech startup's real-time, data-heavy features.
- Apply systems-level database and API design to keep performance stable under real-time load.

Volunteer (Technology & STEM Programs) **Aug 2025**
Next-Gen Innovators *Minna, NG*

- Guided students in working with embedded systems, building their ability to use and implement their own systems.
- Supported the growth of STEM among young learners through hands-on technology programs.

CERTIFICATIONS & TRAININGS

Introduction to Red Hat OpenShift AI (AI262F) May 2026
Red Hat

Python Programming with Red Hat (AD141, Ver. 9.0) April 2026
Red Hat

3MTT DeepTech Computer Vision Program Jan 2026
FMICDE, 3MTT, DSN, Google, DeepTech

Meta AI Developer Academy Graduate *Nov 2025*
Meta / RAIN

MATLAB & Simulink Certified
MathWorks

EDUCATION

Bachelor Of Engineering (BEng): Mechatronics Engineering **Expected in 12/2027**
Federal University of Technology Minna *Minna , NG*