

HOPE SAIN

COMPUTER PROGRAMMER

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PROFESSIONAL OVERVIEW

Hello, I'm Hope Sain, a software engineer with a background in Agricultural Innovations (BSc) and experience building backend systems, frontend applications, and user-focused applications. I have worked across domains including agriculture, finance, and embedded systems, developing solutions ranging from loan scheduling algorithms to smart security systems. I was also part of the team behind Agrera, an award-winning agritech solution recognized in the Top 10 of the Agritech Challenge by Save the Children and GIZ, and supported through a Technology Transfer and Commercialization (TTC) grant by NCST.

WORK EXPERIENCE

Software Engineer

NNDI | December, 2025 – Present | Remote - Full Time

- Developed loan amortization and repayment scheduling algorithms in Golang, generating structured installment plans with accurate interest and principal breakdowns.
- Developed a Golang client to interact with OneKhusa disbursement API, focusing on integration logic, request validation, and error handling.
- Designing, developing, and maintaining user interfaces using Angular with TypeScript, HTML, SCSS, and Angular Material.
- Designing intuitive user interfaces and prototypes using PenPot, and improving overall user experiences in our products.

Embedded Systems Trainee

TME Education | Qubix Robotics | January, 2026 – Onsite

- Built a smart security system (Secure Sense) that monitors and protects valuable items by detecting nearby movement and escalating alerts as a person gets closer, automatically triggers an alarm and locks access during intrusion attempts.
- Designed a state-driven control system using Arduino and C++, integrating PIR motion, ultrasonic distance, and flame sensors with actuators (buzzer, servo motor, LCD) for coordinated real-time responses.

Backend Engineer

Agrera | 2023 – 2025 | Student Innovation

- Developed and maintained feed formulation algorithms for chickens, pigs and quails using Python.
- Designed and implemented a centralized marketplace for agricultural products using Django.
- Created a crop disease identification system for maize, cotton and tomato using CNN techniques with TensorFlow.

EDUCATION

BSc in Agricultural Innovations

Lilongwe University of Agriculture and Natural Resources (LUANAR)
2024

TECHNICAL SKILLS

- Python, Golang, Dart, C++, JavaScript and TypeScript.
- SOLID Principles
- Component Based Architecture
- Embedded Systems
- Product Design (UI & UX)
- RESTful APIs

ACHIEVEMENTS

Top 10 Agtech Challenge

Save the children, GIZ
Agrera – 2024

TTC Grants

NCST, LUANAR
Agrera – 2025

PROFESSIONAL DEVELOPMENT

Electronics and Arduino Programming

TME Education | Qubix Robotics
Status: Completed - 2026