

# PRINCE LARBI

Software Engineer . Automation . XR & IoT

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## PROFILE

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Software engineer working across automation, XR, and IoT, with a particular focus on building technology that reaches people it would not otherwise reach. I have shipped support systems, published open-source libraries used by tens of thousands of people globally, built prize-winning hardware projects, and taken VR experiences to communities across Ghana. I move comfortably between hardware, protocols, backend logic, and product interfaces. Available for freelance and contract engagements.

## EXPERIENCE

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### Software Engineer | Khaya AI

March 2026 - Present

- ❖ Designed and configured the company's end-to-end customer support system in Jira Service Management Cloud, covering the chat widget, Rovo AI agent, ticket queues, triage logic, and help center documentation.
- ❖ Built automation rules that handle routine ticket routing intelligently, reducing manual overhead across the support pipeline.
- ❖ Contributing to the Khaya SDK, extending developer access to Khaya's African language AI capabilities.
- ❖ Represented the team at Cursor Hackathon KNUST and coordinated the debrief after AGRIVOICE won Best Use of Khaya AI.

### Software Consultant | Algorine

Oct 2025 - Jan 2026 | Apr 2025 - May 2025

- ❖ Worked on a unit focused on making locally developed AI models accessible in remote and low-resource areas, reducing the technical overhead required to deploy and use them.
- ❖ Contributed to the design of a language learning flow, thinking through how users move through content and where the experience breaks down.
- ❖ Started early work on an XR/VR agent, exploring how spatial interfaces could extend the product's reach.
- ❖ Engaged twice across two contract periods, contributing to architecture decisions and keeping technical delivery on track.

### Technical Intern | Open Foundation West Africa (OFWA)

September 2024 - December 2024

- ❖ Organised and facilitated developer training sessions for the community, taking ownership of both the technical content and delivery.
- ❖ Contributed to open-source initiatives and community programmes spanning West Africa, working across the technical and coordination sides.

### Intern | Ghana-India Kofi Annan Centre of Excellence in ICT (GI-KACE)

September 2023 - December 2023

- ❖ Placed within the consulting department, attending and participating in legal, business, and technical meetings across active client engagements.
- ❖ Gained direct exposure to how technical and financial proposals are structured, how MOUs are negotiated, and how organisations position themselves to win funding.
- ❖ Picked up practical experience with professional office tooling in a real enterprise consulting environment.

### Python Tutor | Chemical Engineering Students' Association (CHEESA), KNUST

March 2024 - July 2024

- ❖ Selected to deliver Python tutoring sessions for chemical engineering students, with the focus on using code as a practical problem-solving tool within their field.

### STEM Facilitator (Volunteer) | MakersPlace Ghana . CodeTrain

Sep 2023 - Dec 2023

- ❖ Supported the training of young learners in robotics ahead of the Enjoy AI robotics competition, working alongside lead instructors through the full preparation cycle.
- ❖ Was part of the final team run before competition day, having worked with the cohort across months of build-up.

## PROJECTS

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### JALI Initiative | Accessibility . African Language AI . XR Outreach

2024 - Present

- ❖ Founded JALI out of Buildspace to tackle a straightforward problem: AI and local languages are underrepresented in tech, and a lot of people are locked out of it entirely because of language, ability, or access.
- ❖ Built and published a Python library wrapping the Khaya AI APIs for speech-to-text, translation, and text-to-speech, which has served tens of thousands of users across the globe.
- ❖ Designed and prototyped accessibility tools including a braille pad concept, a sign language system that functions in low-light and dark environments, and a sign language to dot matrix display pipeline.
- ❖ Built an AI chatbot that converses in local African languages, lowering the barrier for non-English speakers to interact with AI.
- ❖ Conducted XR research and ran VR outreach events across Ghana, giving thousands of people their first experience of virtual reality, including in rural communities where this kind of access is rare.

### Universal Low-Latency Digital Twin Synchronisation Framework | Final Year Project

2025 - 2026

- ❖ Designed and built a bidirectional digital twin system where physical hardware and an XR environment stay in sync in real time, using a Raspberry Pi 5 as the edge node, Mosquitto MQTT over TCP and WebSocket, and a Meta Quest 2 interface via Meta IWSDK and Vite.
- ❖ Solved the echo loop problem using a Shadow Twin technique with source-tagged MQTT messages, ensuring physical and virtual interactions do not feed back into each other.
- ❖ Modelled every hardware component in Blender as GLTF assets, including relay modules, servo motors, and a DHT22 sensor, so the virtual environment accurately mirrors the physical setup.

### HomeGraph | IoT Home Automation

2023

- ❖ Designed and built a home automation system combining ESP32 and blockchain for decentralised device control, with a web dashboard and community social layer for shared spaces.
- ❖ Presented at multiple hackathons including ETHAccra, winning over \$1,500 USD in prize money across competitions.

## SKILLS

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<b>Automation</b>	Jira Service Management, Jira Automation, RPA, workflow orchestration, AI agent configuration
<b>Languages</b>	Python, JavaScript, TypeScript, C/C++, Bash, Solidity (basic)
<b>Web &amp; APIs</b>	React, Node.js, Vite, REST APIs, Framer
<b>IoT &amp; Edge</b>	Raspberry Pi, ESP32, Arduino, MQTT (Mosquitto), GPIO, DHT22, servo/relay control
<b>XR &amp; Spatial</b>	Meta IWSDK, WebXR, GLTF/Blender, Meta Quest 2
<b>Blockchain</b>	Smart contracts, ETH ecosystem, decentralised application architecture
<b>DevOps &amp; Tools</b>	Git, GitHub, Linux, VS Code, Cursor, Obsidian
<b>Docs &amp; Content</b>	Technical writing, help center authoring, developer documentation, Atlassian ecosystem
<b>Consulting</b>	Technical and financial proposals, MOU drafting, funding identification, stakeholder engagement

## EDUCATION

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### BSc Computer Engineering | Kwame Nkrumah University of Science and Technology (KNUST)

January 2023 - September 2026

## COMMUNITY & LEADERSHIP

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### City Lead | NASA International Space Apps Challenge, Kumasi

2025

- ❖ Led the Kumasi edition of the world's largest annual global hackathon, an event pulling in over 100,000 participants across 160+ countries, coordinating a volunteer team and running the full local programme.
- ❖ Recruited developers, designers, and builders from across disciplines, with many participants taking part in a hackathon for the first time.
- ❖ Mentored competing teams on project direction, technical scoping, and presentation throughout the 48 hours.
- ❖ Selected 2 teams from local submissions to represent Kumasi globally, one of which was an all-girls team that came out as the strongest project from the event.

### President & Technical Lead | Wikitech Student Developers, Kumasi

January 2024 - Present

- ❖ Leading the KNUST chapter under OFWA and AWMT, running programmes across developer education, open-source contribution, and technical community building.
- ❖ Authored the WikiTech Community Handbook, a full governance and onboarding document that defines how the chapter operates and brings new members in.
- ❖ Led the chapter to hackathon participation, preparing and guiding members through competitive technical events.
- ❖ Guided members through the Google Summer of Code process, from identifying projects to putting together competitive applications.
- ❖ Organised photowalks for Wikimedia Commons contributions, getting members out to document and share their environment with the global open knowledge community.

### Tratech Committee Head | IT & Research Committee Lead | Ghana Engineering Students' Association (GESA), KNUST

2024 - 2025

- ❖ Drove technical events and industry partnerships that put engineering students directly in contact with practitioners and companies shaping their fields.

### Innovation Hub Head | Deputy Academic Board Chairman | Association of Computer Engineering Students (ACES), KNUST

2023 - 2025

- ❖ Helped build the Innovation Hub as a community of builders within ACES, creating the culture and connections that gave students a space to work on projects together even without a physical facility.
- ❖ Mentored student project teams from concept through to technically sound, presentable outputs.
- ❖ Organised industry-linked events and partnerships that brought real-world engineering practice into the student community.

### Communities

- ❖ **Open Foundation West Africa (OFWA)** - active member of the open-source and developer community spanning West Africa
- ❖ **Africa Wikimedia Technical Community** - contributor to technical open knowledge initiatives across the continent
- ❖ **Wiki Mentor Africa** - part of the mentorship network supporting wiki contributors across Africa
- ❖ **Enactus KNUST** - member of the social entrepreneurship chapter
- ❖ **Buildspace N&W S5** - selected for the 2024 global builder cohort, participated remotely