**Hackathon Call for Applications**

**Co-Creating AI Solutions for Douala General Hospital (DGH)**

**Overview**

The Douala General Hospital (DGH), in partnership with Data Science Without Borders (DSWB) and with funding from the Wellcome Trust, invites applications for an AI Innovation Hackathon aimed at transforming healthcare delivery in Cameroon. This Hackathon seeks to harness the power of Artificial Intelligence (AI) and machine learning to address systemic healthcare challenges such as poor patient engagement, staff shortages, inefficient inventory systems, and inadequate access to health information. The Hackathon will bring together interdisciplinary teams to co-design, prototype, and test AI-enabled solutions tailored for real-world deployment in DGH.

**Themes**

Participants will work on the following challenge tracks:

**Track 1:** Patient Feedback and Reminder Management System

*Challenge:*

Design an integrated system that captures patient feedback, analyses sentiment and themes, and sends multilingual appointment and medication reminders. The system should support local languages (English, French, Douala, Bassa, Ewondo), visual input methods (emojis, star ratings), and voice/text interaction, even in low-bandwidth settings.

**Track 2:** Large Language Model (LLM) for Enhanced Patient Education and Support

*Challenge:*

Develop a conversational AI chatbot using LLMs such as Mistral or LLaMA to answer patients' questions about diagnoses, medications, and care instructions in clear, empathetic, and culturally sensitive language.

**Track 3:** AI-Enhanced Blood Bank Stock Monitoring and Forecasting System

*Challenge:*

Build an intelligent inventory system that monitors blood stock levels, forecasts demand, and provides recommendations for ordering and resource optimization.

**Duties and Responsibilities**

Selected participants will be expected to:

* Participate actively in all phases of the Hackathon, including orientation, sprints, and pitch sessions.
* Work collaboratively in diverse, interdisciplinary teams.
* Co-design AI solutions using agile and user-centered design approaches.
* Build and test functional prototypes using synthetic or approved datasets.
* Present a demo and pitch to a panel of judges and healthcare stakeholders.
* Adhere to ethical, privacy, and data protection standards.
* Document technical development and implementation pathways.

**Minimum Qualifications and Required Skills**

* Must be Cameroonian and residing in Cameroon.
* Strong interest in digital health innovation and AI.
* Bachelor’s degree or higher in Computer Science, Data Science, Statistics, Engineering, or related fields.

Experience in one or more of the following:

* Full-stack development (web/mobile)
* Machine learning (TensorFlow, PyTorch, scikit-learn)
* NLP and LLMs (spaCy, Hugging Face, LangChain)
* Time-series forecasting (ARIMA, XGBoost)
* Data visualisation (Plotly, D3.js)
* Cloud services (Google Cloud, AWS)

Additional consideration will be given to applicants with experience in:

* Multilingual application development
* Health system data analysis
* UI/UX design for low-bandwidth environments
* Voice-based or text-to-speech interaction tools

**Expected Deliverables**

Each team is expected to produce the following by the end of the Hackathon:

* A working prototype aligned with one of the Hackathon tracks.
* A technical document summarising architecture, methods, and tools used.
* A demo and pitch presentation to judges and stakeholders.

The three best-performing teams will receive cash prizes (the amount to be announced), and continued support will be offered for post-Hackathon refinement and deployment.

**Application Process**

Interested candidates must submit:

* A one-page motivation letter detailing why you want to join the Hackathon, which track interests you most, and what you bring to the team.
* A current CV.
* GitHub or portfolio links showcasing relevant projects (Optional).

Submit your application via

Deadline 09 July 2025