JEAN GABRIEL MPUHWEZIMANA

jmpuhwez@andrew.cmu.edu | mpuhwegabriel@gmail.com
+250 785 813 700| https://www.linkedin.com/in/workwithgabby

SUMMARY

Machine Learning and Electronics Engineer experienced in software development, data-driven modeling, and sensor-based ML systems.Passionate about multidisciplinary solutions combining electronics and software to solve real-world problems. Skilled in software development, embedded systems, signal processing, machine learning, and computer vision.

EDUCATION

Master's of Science in Engineering Artificial Intelligence **August 2025 - July 2027**
Carnegie Mellon University, Kigali, Rwanda

Bachelor'S With Hons in Electronics and Telecommunication Engineering **April 2021 - July 2025**
University of Rwanda, Kigali, Rwanda

WORK EXPERIENCE

Project Manager|Hardware and Software Engineer **December 2023 - September 2025**
Kagoma Tech, Kigali, Rwanda

- Led development of an automated motorcycle driving test system with use of sensors and computer vision, achieving current accuracy of 87% in detecting driver errors.
- Led software team to launch a free online robotics platform, mentoring 30+ students per cohort in Arduino and IoT.

Java Programmer | Robotics Coach, Team Rwanda **July 2023 - Present**
First Global, Kigali, Rwanda

- Taught and supervised students in implementing computer vision on REV Robotics platforms using Java for real-time object detection and autonomous navigation; coached Team Rwanda to top-ranking positions in East and Southern Africa at the FIRST Global Challenges (Singapore 2023, Greece 2024, Panama 2025).

Full Stack Developer **February 2022 - August 2023**
AGCERAMOZ, Maputo, Mozambique, Remote

- Headed end-to-end development of a production stock management system, reducing reporting time from 1 hour/day to a single click, designing time-series forecasting models that improved inventory distribution by 20%, and deploying real-time Firebase alerts for anomaly detection and loss prevention.

PROJECTS

Analysis of Log Normalization Strategies on MTTD and MTTR **November 2025 - January 2026**

- Evaluated rule-based (Drain3) and LLM-assisted (LibreLog) log normalization on HDFS, Nginx, and Apache datasets, achieving >20% improvement in template coverage. The ML-assisted approach increased anomaly detection precision from 0.7318 to 0.9953 with only 1.98% processing overhead, significantly reducing SIEM false positives.

BiliTrack – ML-Enabled Neonatal Jaundice Detection **October 2024 - June 2025**

- Developed a low-cost biomedical sensing system using dual-wavelength photometry and a supervised regression model for data-driven bilirubin calibration; Achieved 81% diagnostic accuracy from <100 µL blood samples, enabling point-of-care screening in low-resource settings.

SKILLS

Backend Development, Machine Learning, Computer Vision, Computer Vision, Internet of things and Embedded systems

LEADERSHIP EXPERIENCE

- Research Club Community Manager (Nov 2025 - present) - CMU-Africa
- Vice President of the Giants Electronics Group (2023 - 2024) - University of Rwanda
- General Secretary at the Sustainable Development Goals Hub (2023-2024) - University of Rwanda