Curriculum Vitae

Contact Information

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About

Dedicated and passionate Mechatronics Engineer with a strong background in PCB design,App developer ,Machine Learning, Robotics, Iot system, programming, and embedded systems. Eager to contribute to innovative projects that positively impact humanity.I am a quick learner, good team player, and a problem-solver with a keen interest in technology and STEM related staff.

Educational Background

1. Bachelor of Engineering in Mechatronics Engineering (2019 - 2024):

❖   At The Copperbelt University in Kitwe.

2. Secondary School Education (2013 -2017) :

❖   At Chililabombwe Secondary School ,Grade 8 -12

3. Primary School Education (2001 - 2012):

❖   At Zabeta private school grade 1- 7

Skills

- Programming Languages: Python, C++, HTML, CSS, PHP, Dart, JavaScript,
- Embedded Programming
- PCB Designer
- Project Management
- Problem-solving
- Team Collaboration
- Data analyst and Machine learning
- Good Communicator
- Leadership

The Projects I have Worked on

Smart Human health IoT Monitoring system (Final Year Project 2024)

- Designed and developed intuitive mobile app user interfaces using Flutter for seamless user experiences, implemented advanced risk analysis models leveraging LSTM and decision tree algorithms, and integrated IoT systems for real-time data monitoring. Additionally, I created an AI chatbot utilizing retrieval-augmented generation (RAG) to provide intelligent, data-driven responses, enhancing user interaction and system efficiency.

Li Academy (2024)

- In my work at Li Academy, I have developed intelligent agents utilizing Large Language Models (LLMs) to enhance user experience and productivity. I specialize in fine-tuning LLMs for specific use cases like AskMyPDF and CBU GPT, leveraging Retrieval-Augmented Generation (RAG) for more accurate and context-aware responses. Additionally, I integrate various AI tools such as document analysis, UI design assistants, and text recognition to create seamless, user-friendly applications.

Kudima AI App (2023)

- Developed a predictive model for tomato diseases using Python and I used flutter to build the app. Implemented machine learning techniques for tomato disease detection.

Electric Car Smart App (2023)

- Developed an app for the electric car we built as the robotics club at CBU,the app was used to monitor battery temperature and battery charge state by use Internt of things to connect to the hardware wirelessly.

Vision-based Robotic System (Fourth Year 2023)

- Engineered a robotic system using computer vision to capture and sort fruits and objects based on color. Here I trained an ai model to predict the fruit type form data I collected from kaggle I used transfer learning for better perfomance. I also used an arduino to control the servo motors which was code in embedded C. Utilized Python for image processing and control.

Arcus Smart IoT App (2023)
- Designed an IoT application for data collection and pump control on a farm.
- Integrated CC3200 microcontroller for efficient device communication and developed an API in python to communicate between microcontroller and firebase.

Amatrade Store E-commerce Website (2022)
- Built a responsive and user-friendly e-commerce website using HTML, CSS, Javascript and PHP.

Arcus Invest-ZM Website (2023)
- Developed and maintained the company website for Arcus Investment Zambia written in HTML ,CSS ,JavaScript and PHP.

Professional Experience

Intern, Arcus Investment Zambia (2023)
- Contributed to the development of PCBs for there electric cars,Mobile App and IoT devices.
- Collaborated with cross-functional teams to achieve project goals.

Probase Group, Software and FinTech Company (2023 - 2024)
- Worked on a facial attendance recognition system for there staff and I used python to build the web app.

Clubs and Memberships
- Robotics Club Member, CBU as a Chief Technical Officer(2023)
- Junior, Engineers, Technicians and Scientist JETS Member (2013 - 2017)
- Google Developer Group Kitwe as Organizer
- Hult Prize Foundation as a Campus Director(2022)
- Engineering Institute of Zambia EIZ
- Information ,computer and Technologies Association of Zambia (ICTAZ)

Hobbies
- Listening to music
- Reading
- Running
- Watching documentaries

References

Available upon request.

CEO from Arcus Investment Zambia
John.katepa@arcusinvest-zm.com

Probase Group Chief Technical Officer
Mr M. Simwase
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University Supervisor
Mr E. Sokoleta
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Robotics Club Patron
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