Bertrand Rusanganwa

PH: (417)-234-8637 | rusanganwabertrand10@gmail.com

Relevant Links: LinkedIn | GitHub | My site
Programming Languages: ,Python, Java, JavaScript, C++, HTML, CSS, SQL
Frameworks: React, FastAPI, Spring Boot, Spring MVC, Dash, Plotly, scikit-learn, LangChain
Technologies: Git, Docker,PostgreSQL, Playwright,Tesseract OCR, WebSockets, asyncio, Pydantic, PyAudio

EDUCATION

Missouri State University (MSU): Springfield, MO
Bachelor of Science in Computer Science, Minor in Mathematics and IT Cyber Security   *Expected Graduation: May 2026*
- Dean's List: Fall 2023, Spring 2024
- GPA: 3.4

WORK EXPERIENCE

Missouri State University   **August 2023–Present**
Resident Assistant- Residence life Department   *Springfield, MO*
- Successfully coordinated over 35 residents annually through community engagement initiatives.
- Fostered inclusive community with effective communication to boost resident satisfaction.
- Implemented strategic communication strategies to enhance community engagement.

Rwanda Space Agency   **May 2023 - July 2023**
Student Intern- SDE Intern for Geospatial Data Hub — Front-End   *Kigali, Rwanda*
- Refactored frontend modules to cut page load time by 20%, improving responsiveness of the Geospatial Data Hub for Earth-observation (EO) analyses.
- Delivered UI features end-to-end with the software team (requirements, implementation, integration) to support SDG-focused data exploration.
- Promoted code quality with linting, code-review checklists, and consistent styling; collaborated with cross-functional stakeholders to triage usability issues and prioritize fixes.

PROJECTS

BEARCHAT | University QA Chatbot | (Python, FastAPI, LangChain, vLLM/Ollama, FAISS)   **2025**
- Rewrites queries, retrieves with BM25 + vector, reranks results, generates grounded answers, cites sources, and streams tokens in real time.
- Fast API backend with typed endpoints for a React Native client; local model served via vLLM/Ollama with optional web-LLM fallback; tracing and retrieval evals on a golden set, plus rate limits and auth
- Ingests web (Requests/BS4, Playwright) and OCR'ed PDFs; layout-aware chunking + metadata; FAISS embeddings in per-tenant namespaces.

J.A.R.V.I.S Voice AI Assistant Project | (Python,PyAudio,LangChain)   **2024**
- Built a low-latency speech-to-speech assistant that captures 16-kHz PCM with PyAudio, streams to ElevenLabs Realtime for ASR/TTS, and responds with natural turn-taking
- Designed an asynchronous audio pipeline with asyncio tasks, ring/jitter buffers, and optional VAD to keep capture, send, and playback smooth under load.
- Shipped a FastAPI service using LangServe and instrumented it with LangSmith traces and evaluations; added prompt-regression tests and a one-command CLI demo for fast local runs.

StockVision AI tool | (Python, Dash, SVR, Plotly)   **2024**
- Created an interactive app that allows users to view and forecast stock prices using real-time data with easy-to-understand charts
- Designed interactive charts with Plotly, enabling users to explore AI-driven stock predictions and confidence intervals in a dynamic interface
- Applied GridSearchCV to optimize SVR hyperparameters, achieving a highly accurate prediction model for stock closing prices

LEADERSHIP/CIVIC ENGAGEMENT

East African Student Association(EASA)   **March 2023 - Present**
Vice president   *Springfield, MO*
- Doubled operating budget within one semester; coordinated sponsors and campus partners
- Acted as a liaison between the student body and university administration, advocating for EASA students.