

BRYIUM ONYANCHACHA

SOFTWARE DEVELOPER

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<https://github.com/Bryium>

<https://bryium.github.io/Portfolio/>

ABOUT ME

I'm a graduate with experience in both frontend and backend development, creating web applications using React, Tailwind CSS, and Next.js. On the backend, I work with Node.js, Django, and Flask, focusing on building robust APIs and managing databases. I also develop mobile apps using Java, Kotlin, and React Native with the Expo framework. Additionally, I have expertise in machine learning and data science, including working with transformer models, reinforcement learning, and scalable ML pipelines. I'm also familiar with Docker for containerization and using GPU resources to optimize ML training

EDUCATION

Bachelor of Science, DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY, Nyeri | 2024

- Graduated with Second Class Honors in BSc Information Technology.
- Knowledgeable in software engineering concepts and networking.
- Experienced in using and managing both Linux and Windows operating systems, including system administration tasks.
- Proficient in programming languages like Java, Python, JavaScript, Kotlin, TypeScript, GO, and C++, with a solid understanding of data structures and algorithms.
- Experienced in Object-Oriented Programming (OOP) with design patterns like MVC and Singleton.
- Skilled in working with databases such as MySQL, PostgreSQL, and with experience in mobile and web development and also machine learning.
- Knowledge of web security best practices, including OAuth, JWT and encryption methods.
- Proficient in Docker for containerization and managing virtual machines.
- Experience with cloud infrastructure management, including deployment, scaling, and orchestration.

WORK EXPERIENCE

Software Engineer | Dukatech Solutions | Nairobi | Oct 2024 - Jan 2025

- Contributing to developing innovative applications at DukaTech Solutions.
- Involved in the development of Shop Okoa and Mamapesa, a savings and loan platform.
- Integrated machine learning models into Mamapesa to predict loan eligibility.
- Developed an AI chatbot to simplify loan applications and educate users on financial concepts.
- Leveraging backend expertise and machine learning skills to design algorithms and models.

IT intern | Ministry of Water, Sanitation and Irrigation | Nairobi | Sep 2024 - Dec 2024

- Gained hands-on IT experience by managing networks, websites, and hardware maintenance.
- Installed software, provided technical support, and configured ICT equipment.
- Trained users, facilitated virtual meetings (Zoom, Microsoft Teams), and offered remote support (TeamViewer).
- Managed server systems, conducted data recovery, and maintained ICT inventory.

PROJECTS

KUKUAFYA | Disease Diagnosis Application

Developed a responsive disease diagnosis application that predicts chicken diseases by analyzing images of chicken diseases provided by the user.

- The app uses a machine learning model, trained with deep learning techniques and TensorFlow, to process the images and deliver an accurate diagnosis.
- Utilized: TensorFlow, Python, Flask, Machine Learning, Deep Learning, Image Processing.

Github: <https://github.com/Bryium/KukuAfya.git>

Simple-Meditation | Meditation App

Developed a mobile application that offers guided meditation sessions to help users relax and improve mental well-being.

- Integrated audio and visual elements to provide a rich and immersive user experience.
- Implemented features for tracking meditation progress and personalizing meditation plans.
- Utilized: React Native, Expo, JavaScript, Audio API, Mobile Development, User Progress Tracking.

Github: <https://github.com/Bryium/Meditation-App.git>

Virtual Cursor | Virtual Curoser System

Developed a desktop application that enables users to control a virtual cursor through custom input methods, allowing for hands-free navigation.

- Used OpenCV for video capture and image processing, providing real-time visual feedback.
- Integrated MediaPipe for accurate hand landmark detection, ensuring precise cursor movement.
- Leveraged PyAutoGUI to simulate mouse movements and interactions based on hand gestures.
- Utilized: OpenCV, MediaPipe, PyAutoGUI, NumPy.

Github: <https://github.com/Bryium/virtual-cursor.git>

Bryium AI | RAG-powered chatbot

Developed an intelligent RAG-powered chatbot using Flask and LangChain.js for real-time, context-aware conversations.

- Integrated GeminiAPI for dynamic AI responses, RAG for external knowledge retrieval, LangChain.js for conversational logic, and Vanilla CSS for a responsive frontend.
- Utilized: Flask, GeminiAPI, LangChain.js, Pure CSS, RAG, Python

Github: <https://github.com/Bryium/BryiumAI.git>

Inner-Circle | Dating Application

Developed a full-stack dating application using Next.js 14 with Prisma for database management, NextAuth for authentication, Pusher for real-time communication, and Cloudinary for image handling.

- Utilized: Next.js 14, Prisma, NextAuth, Pusher, Cloudinary, Vercel, PostgreSQL, React Hook Form, Zod Validation, Zustand, TypeScript.

GitHub: <https://github.com/Bryium/Inner-circle.git>

CareBuddy | Web Application

Developed CareBuddy, a full-stack web application connecting patients with doctors via secure virtual consultations and appointment scheduling, using React for the frontend and Django REST Framework for the backend.

- Utilized: React, Vite, Tailwind CSS, Axios, Django, Django REST Framework, PostgreSQL, JWT, Google Maps API, CORS, Unicorn, Vercel, Render/Railway

Github: <https://github.com/Bryium/CareBuddy-.git>

F1-Chatbot | Nextjs-f1GPT

Developed nextjs-f1gpt, a Retrieval-Augmented Generation (RAG) chatbot trained on Formula One data, leveraging LangChain.js for conversational logic and OpenAI for dynamic, context-aware responses, built with Next.js for full-stack integration

- Utilized: Next.js, LangChain.js, OpenAI, Vercel

Github: <https://github.com/Bryium/F1-Chatbot.git>

HURA-Chatbot

Developed Hura Chatbot, a conversational web application that delivers AI-driven replies and real-time weather forecasts based on user location, featuring a responsive interface for seamless user experience.

- Utilized: HTML, CSS, JavaScript, Python, Flask.

Github: <https://github.com/Bryium/HURA-Chatbot.git>

SKILLS

- Java GO Kotlin Python(Django, Flask) JavaScript (Node.js, React, LangChain.js, Next.js,Expo, TypeScript)
- CSS(Vanilla & Tailwind CSS) Git & GitHub SQL (PostgreSQL, SQLite) ORM (Prisma, Django ORM) Deep Learning (TensorFlow)
- RAG (Retrieval-Augmented Generation) Computer Vision (OpenCV, MediaPipe) RESTful API Design WebSocket (Pusher)
- User Authentication (JWT, NextAuth) HTTPS, CORS configurations Google Firebase