OMAR RIYAZ

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BSc Computer Science Honors graduate from Heriot-Watt University, specializing in AI and Data Science. Proficient in Python, Java, SQL, and other key programming languages, with expertise in Robotics, Machine Learning, and Data Analytics and Visualization. Practical experience in Intelligent Automation and Cyber Security through internships and a Teaching Assistant role. Strong oral and written communication skills, self-motivated, and proactive. Passionate about exploring new technologies, with a focus on AI applications in healthcare, sustainability, and automation. Additionally, a music producer with a successful YouTube channel and competitive basketball player with leadership experience. Seeking an internship or job in AI to apply technical expertise and contribute to innovative projects.

EDUCATION

Gems Modern Academy **2015 - 2020**

High School Diploma

Heriot Watt University **2020 - 2024**

Bachelor of Science (Honours) Computer Science
Graduated with Upper Second Class (69%)

University Of Bath **2024-2026**

MSc Data Science

EXPERIENCE

Automation Anywhere - Software Engineering Intern

As a Software Engineering Intern at Automation Anywhere, I contributed to the product development team by developing Java modules for Automation360, their flagship cloud-based automation platform used by enterprises, banks, hospitals, and universities. My roles included creating packages in Java, facilitating the migration of on-premises bots to the cloud, and designing a custom bot for the Heriot-Watt student portal that automated the delivery of exam results and guidance on re-sit examinations. Additionally, I collaborated with the Quality Assurance Team, gaining valuable experience in testing methodologies, risk management, and ensuring that product development met user requirements.

Paramount Computer Systems - Cyber Security Intern

During my internship at Paramount Computer Systems, I explored various aspects of cybersecurity, risk mitigation, and the tools used for cyber security. Throughout the internship, I gained a broad understanding of the principles of cybersecurity. I familiarized myself with Microsoft's security offerings, including Azure and Microsoft 365, understanding their services and capabilities. I also led a hands-on capstone project, implementing Conditional Access policies, optimizing email security, enhancing endpoint security, securing cloud applications, implementing Data Loss Prevention, establishing a Network Security Group in Azure, and configuring Microsoft Sentinel for proactive cybersecurity practices.

Heriot Watt University - Teaching Assistant

Assisted at the Software Development lab classes for Year 1 Students of Heriot Watt University. My responsibilities included clearing doubts that students may have about Java language, debugging their codes, and helping students set up their IDEs and code repositories. I was also responsible for marking their exams and reviewing their course-works on a regular basis. Additionally, I also assisted in the Web Design and Databases lab classes for Year 1 Students at the University. My responsibilities include addressing student queries on various aspects of the course, such as website design, database design, and implementation with simple PHP queries.

PROJECTS

Machine Learning Project: Song popularity predictor using Spotify Data

In this collaborative project, we developed a predictive model for song popularity using Spotify data, aiming to predict a song's popularity based on its attributes. Our work included dataset cleaning and exploring using the Pandas Library, implementing a Python script for efficient data handling, and applying K-Nearest Neighbors, Decision Trees, and Neural Networks for predictive modeling.

Conversational Agents Project

Led a group of 8 that conducted a study exploring the implementation of narratives in human-robot interactions to aid navigation tasks. Utilizing a Furhat robot paired with OpenAI's GPT 3.5 as a dialogue system, we investigated the impact of narratives on instruction correctness, utility, and recall, along with their influence on the quantity of follow-up questions and the Furhat robot's anthropomorphism and likeability. The research aimed to deepen understanding of user experience and cognitive processes in narrative-based interactions. The experiment involved Python for data analysis, Kotlin for Furhat robot programming, prompt engineering, building a virtual environment and rigorous experimental design to ensure optimal results.

Final Year Dissertation: Teaching Assistant Chatbot

During my 4th Year Honours project, I developed a Teaching Assistant Chatbot integrating machine learning and natural language processing. Leveraging technologies such as PyPDF2 for slide text extraction, LangChain for preprocessing and conversational retrieval, and OpenAI's GPT-3.5 Turbo Chat Model for responses, the chatbot enables students to interact with lecture materials via natural language queries. The final dissertation received an A grade, demonstrating the chatbots effectiveness in enhancing query resolution, improving the learning experience, and streamlining workload for educators.

Augmented Reality Scrapbooking Application

Led a team of 8 members in a yearlong project to create an Augmented Reality Scrapbooking Application called Contra. This social media/scrapbooking platform allowed users to create and share scrapbooks using AR technology. Built with React Native and ViroReact, the app enabled users to post and interact with AR-enhanced scrapbooks. Our group achieved an A grade for presenting the project at an Expo and submitting comprehensive documentation, including design and implementation reports, evaluation reports, and user guides. The project involved UI/UX design, mobile and web development, and augmented reality integration.

COVID-19 Data Visualization Project

I also undertook a Data Visualization project using a COVID-19 dataset. After exploring and cleaning the dataset using Pandas and NumPy, I used HTML, CSS, JavaScript, and the D3 library to visualize the data on a dashboard. Employing line charts, a choropleth, bar charts, bubble charts, and donut charts, all with tooltips, transitions and animations to showcase the effects of COVID-19 vaccination on deaths and cases worldwide.

Robotics Project: Mars Rover Naviagtion

The project was delivered using Behavior Based Robotics (BBR) and Evolutionary Robotics (ER), and the controllers were coded in Python for a Mars rover replica in Webots. BBR controllers successfully navigated predetermined paths and reward zones, while the ER approach faced challenges, motivating further ways to drive enhancements. This project was very crucial in teaching me the practical challenges and in providing us valuable insights into the effectiveness and limitations of bio-inspired strategies in Mars exploration.

REFERENCES

Dr. Idris Ibrahim

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