UMAR DABHOIWALA

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EDUCATION

AUSTRALIAN NATIONAL UNIVERSITY , FEBRUARY 2020 TO DECEMBER 2023

BACHELOR OF ADVANCED COMPUTING (HONOURS),

- Minor in Computer Science Foundations and Specialisation in Machine Learning
- WGPA: 6.2/7

PROFESSIONAL EXPERIENCE

PENTEN, CANBERRA, ACT, FEBRUARY 2023 TO PRESENT

JUNIOR SOFTWARE ENGINEER (APPLIED AI), JULY 2023 TO PRESENT

- Designed and implemented RESTful APIs using Python with FastAPI and established robust MongoDB backend interfaces, significantly optimising data storage and retrieval processes as a full stack developer.
- Created autonomous agents using C# to simulate realistic user interactions and behaviors within the Windows environment and across network systems, increasing the authenticity of the Cyber Deception Range Product
- Enhanced user experience by developing intuitive front-end interfaces using Angular with TypeScript and employing WebSocket technology for real-time data streaming to client dashboards.
- Spearheaded the integration of OpenAI's APIs into the Cyber Deception Range Product, enhancing functionality while reducing API costs by 57% through innovative prompt compression and the use of on-premises models.
- Developed and fine-tuned custom generative AI content models, including Low-Rank Adaptation Models for Stable Diffusion, tailored specifically to meet organisational use-cases.
- Ascended to lead a key project, demonstrating exceptional leadership and project management skills by delivering the project 3 weeks ahead of schedule while supervising and fostering the development of a new batch of interns.

SOFTWARE ENGINEERING INTERN, FEBRUARY 2023 TO JULY 2023

- Worked on the development of machine learning algorithms to generate realistic honey files for the Honey Trace Product, enhancing intrusion detection capabilities across multiple file formats.
- Engineered an interactive demo user interface using Flask and hosted on Google App Engine, showcasing advanced technical skills and improving user engagement.

DEPARTMENT OF INFRASTRUCTURE, CANBERRA, ACT, NOVEMBER 2022 TO FEBRUARY 2023

RISK MANAGEMENT INTERN

- Actively contributed to the development of a comprehensive risk policy and participated in diverse risk management initiatives, supporting the department's strategic approach to risk.
- Designed and implemented custom data management and visualisation tools using Python and VBA, markedly improving efficiency and clarity in data analysis processes.
- Achieved a 13% increase in data entry efficiency through innovative VBA programming, eliminating redundant tasks and streamlining workflow for the 2023 department-wide risk agenda.

PROJECTS

AUSTRALIAN NATIONAL UNIVERSITY

Hyperinflation Prediction using Outlier Detection Research Project

- Pioneered a predictive model using Holt-Winters forecasting and Neural Networks, achieving a 74% accuracy in hyperinflation prediction from historical data.
- Conducted in-depth analysis of academic research to integrate statistical, economic, and computing methodologies, enhancing the project's theoretical foundation.
- Developed and implemented advanced analysis using Python and MATLAB, demonstrating proficiency in machine learning and statistical analysis techniques
- Authored a comprehensive research paper detailing the project's methodology, findings, and potential applications, showcasing strong technical writing skills and the ability to communicate complex machine learning concepts effectively

TECHNICAL PROFICIENCIES

- **Programming Languages:** Python, C#, Java, JavaScript (TypeScript), Go, C++, C# ARM32 Assembly, Haskell
- **Web Development:** HTML, CSS, Angular, React, Three.js, FastAPI, Flask, RxJS
- **Database Management:** PostgreSQL, MongoDB
- **Data Analysis & Machine Learning:** MATLAB, R, PyTorch