JESS JOSEPH BENNY

AI Enthusiast with MSc in Computer Science, Major in Artificial Intelligence

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SKILLS SUMMARY

- 2+ Years of AI Research Experience
- 3+ Years of Professional Experience as a Software Engineer
- Design of Machine Learning Models for Statistical Analysis, Natural Language Processing and Time Series Analysis
- Experienced in working with agile methodology and using Jira and Confluence
- Experienced in Backend Technologies including Spring Boot, FastAPI & Frontend Frameworks including Angular, React
- 2 Years of Professional Teaching Experience as Graduate Assistant

TECHNICAL SKILLS

- **Languages -** Python, C++, Java, R, JavaScript
- **Machine Learning Libraries** - PyTorch, TensorFlow, Scikit-learn, Keras
- **Data Analytics Tools** - Microsoft Power BI, Power Query, Azure Data Studio
- **Machine Learning Methodologies** - Regression, Decision Trees, Deep Learning, Natural Language Processing
- **Databases -** Microsoft SQL Server, MongoDB, PostgreSQL, Oracle SQL, MySQL
- **Front-end Frameworks -** React, Angular
- **Back-end Frameworks -** FastAPI, Spring Boot, Node Js, Django Rest Framework, Loopback, Adobe Coldfusion
- **Cloud -** Azure, Docker, Jenkins
- **Tools & Methodologies -** Agile, Jira, Confluence, Git, ServiceNow

EDUCATION

MSc in Computer Science, Major in Artificial Intelligence

May 2021 – Aug 2023

University of Windsor

Windsor,ON

- 8.75 CGPA
- Academic thesis on the topic 'Evaluation of Large Language Models for Knowledge-Informed Fake News Detection.'
- Relevant Coursework: Statistical Learning, Intro to Artificial Intelligence, Deep Learning and Neural Networks, Applied Artificial Intelligence, Visual Processing, Information Retrieval Systems,

B.Tech in Computer Science

Jul 2014 – May 2018

Mahatma Gandhi University

MACE, Kothamangalam, India

WORK EXPERIENCE

Software Engineer Co-op

Jan 2022 – Dec 2022

Manulife

Toronto, ON

- Created an enterprise dashboard spanning 9 pages using Power BI, enhancing workforce-related decision-making for stakeholders.
- Engineered efficient ETL (Extract, Transform, Load) pipelines using M Query and Python scripts within Power Query Editor
- Resolved critical issues with PDF rendering and autofill functionality in an internal application written in Adobe ColdFusion, ensuring seamless document generation and data population.

- Designed and executed a Proof of Concept (POC) for an innovative Automatic Azure Architecture Diagram Creation Tool.
- Successfully integrated Adobe Analytics into an internal application to capture and analyze application-specific usage metrics, providing valuable insights for strategic decision-making.

Software Engineer (Full Stack Developer)

Sep 2018 – Dec 2020

IVTL Infoview Technologies Pvt. Ltd

Chennai, India

- Led a team of 3 members in the design, development, and testing of a series of innovative marketing tools for the parent organization.
- Played a key role in the design and development of a series of migration acceleration tools utilizing Spring Boot, React, and MongoDB, significantly reducing the time and complexity of migrating the enterprise application
- Developed HRM application's approval queue module in 3 months using Angular, Express.js, and PostgreSQL, enhancing internal approval workflows.
- Enhanced UI and resolved bugs in an enterprise asset management application written in Java, JavaScript, and Oracle SQL.

ACADEMIC PROJECTS

Knowledge Informed Fakenews Detection using Large Language Models

Technologies Used : Python, PyTorch, Keras, Transformer

Jan 2023 - Aug 2023

- Developed a knowledge-informed fake news detection model with 94% accuracy using an ensemble of knowledge graph embeddings and word embeddings from Large Language Models (LLMs).
- Evaluated model performance with diverse LLMs, including GPT, Google T5, Ernie, and BERT.
- Incorporated various knowledge graph embeddings, such as TransE, RotatE, and SimplE, to capture external knowledge and enhance context understanding.
- Applied natural language preprocessing techniques like n-grams and latent semantic analysis to improve data quality

Deep Learning Music Generation Model

Sep 2022 – Dec 2022

Technologies Used : Python, PyTorch, Pypianoroll, Numpy

- Designed automatic music generation deep learning models to generate new soothing music compositions
- Developed multiple models employing diverse machine learning techniques, including Recurrent Neural Networks (RNNs), Generative Adversarial Networks (GANs), and Convolutional Neural Networks (CNNs)
- Developed data preprocessing pipeline to convert MIDI format music into time-series tensor data, enabling effective input for the deep learning model.
- Conducted thorough performance evaluations to assess the quality, creativity, and authenticity of the generated musical pieces.

PERSONAL PROJECTS

Intelligent Job Board

July 2020

Technologies Used: Python, FastAPI, Transformer, GPT-4, PyTorch, React, SQL Server

- Designed and implemented an intelligent job board that uses job descriptions extracted from LinkedIn
- Develped web scraping logic using python to extract job descriptions matching a keyword and location
- Incorporated clustering by utilizing Large Language Models (LLMs), allowing the efficient categorization of job postings based on skills
- Developing natural language search using OpenAI function calls, enabling users to generate search results through human-like natural language queries