Ujwal Jibhkate

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Education

Indiana University — Bloomington, IN
Master of Science in Data Science — *Aug 2024 – May 2026*

Ramdeobaba University (formerly RCOEM) — Nagpur, MH, India
Bachelor of Engineering in Electrical Engineering with minor in Computer Science — *Aug 2018 – May 2022*

Experience

IBM — May 2022 - Apr 2024
Application Developer — *Pune, MH, India*

- Developed 3 POCs for automated customer complaint/inquiry portals as part of the Gen AI Business Squad for SSE/OVO, including 1 basic and 1 advanced model.
- Achieved response classification times of 1.2 seconds with the new system, significantly improving on the traditional CSR method's average of 5 minutes (ranging from 45 seconds to 20 minutes).
- Collaborated with a team of 5, utilizing Watsonx.ai, Azure OpenAI, and Python to deliver the solutions.
- Contributed to 3 projects with a 15-member team, managing the migration of 500,000 customer records from the legacy CS system to UMAX, while utilizing expertise in IBM Mainframe systems (zOS), COBOL, DB2, and Smalltalk Visual Age.

Projects

FAQ Chatbot using RAG | *Python, Watsonx, Openai, Streamlit, ChromaDB* — Jan 2024 – Apr 2024

- Designed and implemented an FAQ chatbot using Retrieval-Augmented Generation (RAG), integrating 500 FAQs from a 50-page document to deliver accurate, context-aware responses in under a second, significantly reducing hallucinations and enhancing CSR efficiency.
- Led all technical work in a 5-member team to develop an accessible, accurate chatbot that significantly improved user query handling, using Python, Streamlit, IBM Machine Learning, Azure OpenAI, LangChain, and semantic search; integrated LLaMA-2-70B-chat and GPT-3.5-turbo for high-quality, fast responses.

Health Monitoring and Estimation of Li-ion Battery | *Python* — July 2021 – Dec 2022

- Developed an advanced Kalman filter integrated with a hybrid OCV–SOC model for Lithium-ion battery health monitoring, achieving an error rate below 0.01885 for the full SOC range and 0.01448 for the partial SOC range (10–90'%').
- Analyzed real-time experimental and standard datasets using Python, improving SOC estimation accuracy and publishing findings in Electrochimica Acta and the Springer ICAER 2022 Conference.

Technical Skills

Languages: Python, C, COBOL, R
Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio
Cloud Platform: Google Cloud Platform, Azure OpenAI, IBM watsonx
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, Keras, TensorFlow

Certifications

- IBM Data Science Professional Certificate | Oct 2024
- Google Cloud Digital Leader | Nov 2022

Leadership Experience

- Team Leader: Watsonx Challenge, IBM | Aug 2023
- Team Leader: Smart India Hackathon 2022, RCOEM | Apr-May 2022

Research Publications & Presentations

- Jibhkate, Ujwal N., and Uday B. Mujumdar. "Development of low complexity open circuit voltage model for state of charge estimation with novel curve modification technique." Electrochimica Acta 429 (2022): 140944.
- A paper on "Comparative Analysis of Machine Learning Algorithms for State of Charge Estimation with a Novel training method approach" (Under Review)