Ritaja Chatterjee

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SUMMARY

Machine Learning Engineer driven by curiosity and impact, skilled in building and deploying intelligent systems. Adept at solving complex problems using data-driven approaches, with a focus on innovation, scalability, and continuous learning.

EDUCATION

Bachelor of Technology, Information Technology Vellore Institute of Technology, Vellore

TECHNICAL SKILLS

Programming: Python, C, C++, Java, Data Structures and Algorithms
Frontend: HTML, CSS, JavaScript, ReactJS
Backend: NodeJS, MongoDB
Core Competencies: DBMS, SQL, NoSQL, Artificial Intelligence and Machine Learning, Hadoop, Spark
Tools and Technology: Git/GitHub, Postman, Google Cloud Platform, R Language, Nmap, Wireshark, Kali Linux

PROFESSIONAL EXPERIENCE

COACTIVE IT Solutions (P) LTD, Kolkata, WB: SAP Development Intern

- Learned the complete end-to-end cycle of Material Management in SAP S4/HANA, including organization structure and master data.
- Acquired expertise in the procurement cycle (P2P Cycle) and service entry sheet processes.
- Customized the SAP MM module to meet specific company requirements, ensuring optimal functionality.
- Developed a solid understanding of SAP S4/HANA Material Management workflows and processes.

PROJECTS

Improving GANs Performance Using Reinforcement Learning

- Enhanced GANs by integrating DQN-based reinforcement learning to address mode collapse and training instability.
- Developed and compared Vanilla GAN, DCGAN, and DQN-enhanced GAN architectures using the MNIST dataset.
- Incorporated off-policy reinforcement learning for dynamic optimization of latent space vectors.
- Evaluated models with FID and visual inspections, achieving improved image quality, stability, and diversity in generated outputs.
- **Tools:** Python, TensorFlow, Keras, NumPy, Pandas, Matplotlib.

Customer Churn Prediction

- Built a machine learning model to predict customer churn using the Telco dataset (7,045 records) and analytics.
- Implemented a 3-layer feedforward neural network for binary classification.
- Preprocessed data by handling missing values, scaling, and one-hot encoding.
- Achieved high accuracy in churn prediction, enabling targeted retention strategies.
- **Tools:** TensorFlow, Python, React JS, Node.js, MongoDB, Mongoose, Vercel.

Abstractive Summarization of Legal Documents

- Fine-tuned BART on a curated legal corpus (CivilSum)
- Built a multi-model fusion pipeline (BART + T5 + PEGASUS) for enhanced coherence
- Designed a custom Legal Compliance Score alongside ROUGE & BERTScore evaluations
- **Tools:** Python, Hugging Face Transformers & Datasets, PyTorch, NLTK, SpaCy, scikit-learn