Sai Dhiren Musaloji

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Summary

Data Scientist — Azure Certified Data Scientist & AI Engineer
Graduate student with advanced **domain knowledge in Machine learning, DL, Data analytics, and Cloud AI**, demonstrated through internships and technical projects. Combines **top-tier analytical skills** with **sharp observational rigor** to identify patterns and solve complex problems under tight deadlines. Adept at translating technical insights into strategic outcomes through **time-sensitive execution**, and cross-functional collaboration.

Education

New Jersey Institute of Technology *MS in Data Science* GPA: 3.85/4
Mahatma Gandhi Institute of Technology *B.Tech in Electronics Engineering* GPA: 7/10

Certification

Microsoft Azure Data Scientist, Microsoft Azure AI Engineer

Technologies

Languages: C, Python, Java, SQL, JavaScript, R
Tools: NumPy, Pandas, Keras, TensorFlow, Matplotlib, scikit-learn, Seaborn
Technologies: Microsoft SQL Server, Tableau, Power BI, AWS, Google Cloud, Azure, Hadoop, Oozie

Experience

AI Engineer Intern *Pune, Maharashtra*
Tech Mahindra, Makers Lab *Oct 2023 – Jan 2024*

Large Language Model Development

- Engineered **low-resource language processing pipelines** using SentencePiece and dynamic vocab switching for code-mixing across 3 language families.
- Built **ethical AI guardrails** with hybrid regex/neural classifiers (F1=0.92) to filter toxic data from 1TB+ conversational corpus.
- Optimized **transformer inference** via block-sparse attention and LoRA adapters, reducing VRAM on NVIDIA GPUs.

Autonomous Speech Recognition

- **Developed German/Japanese→English ASR System**:
  - Designed **ESPnet2 conformer** with joint CTC/attention decoding (89.4% WER).
  - Fine-tuned **Whisper-v3** using SpecAugment for accent-adaptation (15% CER improvement).
  - Deployed low-latency transcription API via gRPC + WebSocket (200ms @16kHz).
  - Applied TensorRT for edge optimization (2.1× throughput boost).

Projects

Deep Learning Projects

- Architected and refined diverse **neural network architectures (DNN/GNN)** for classification and **time-series forecasting**, skillfully enhancing model accuracy through hyperparameter tuning and cross-validation.
- Engineered cutting-edge AI systems using **GANs and diffusion models** for image synthesis, leveraging distributed **TensorFlow** implementations to boost computational efficiency.
- Elevated **NLP** and adaptive decision-making capabilities through **BERT fine-tuning** and **reinforcement learning** (Policy Gradient/Actor-Critic), demonstrating proficiency in developing AI systems for complex, real-world applications.