Sejal Barshikar

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Available: May 26 - Aug 26

EDUCATION

Northeastern University, Boston, MA | Sept. 2025 – Present | Master of Science in Computer Science

Related courses: Algorithms, Database Management System

SavitriBai Phule University, Pune, India | Aug 2021 - May 2025 | Bachelor of Engineering in Artificial Intelligence and Data Science | GPA: 8.64/10.0

Related courses: Object Oriented Programming, Data Structures, Databases, Software Engineering, AI, Machine Learning

TECHNICAL KNOWLEDGE

Programming Languages: Python, C++, JavaScript, SQL, MongoDB

Machine Learning: PyTorch, TensorFlow, Keras, Scikit-Learn, Hugging Face Transformers, OpenCV, Seq2Seq, GRU, LSTM, XGBoost, Scipy, Pandas, NumPy, Matplotlib, Seaborn, NLTK, Apache Spark, Jupyter, VS Code, Plotly, Git

Specializations: Natural Language Processing, Deep Learning (CNNs, RNNs, Transformers), Computer Vision

WORK EXPERIENCE

AICTE (All India Council for Technical Education) | Bangalore, India | Feb 2024 – Apr 2024

Data Science Intern

- Engineered ETL pipeline using Pandas and SQL to process 5M+ retail transaction records into 5000+ unique customer profiles, reducing data processing time by 60% through optimized data transformations
- Implemented K-Means clustering algorithm with automated hyperparameter tuning using Silhouette analysis, achieving score of 0.236 and successfully identifying 5 distinct customer segments for targeted marketing
- Deployed recommendation engine using Flask REST API with Redis caching, enabling real-time inference for 4,000+ customers with sub-100ms latency for marketing campaign optimization

PROJECTS

CIFAR-10 Image Classification System | Northeastern University | Oct 2025 – Present

Custom CNN for multi-class image classification with data augmentation and deployment

- Built custom CNN architecture from scratch with 1.15M parameters achieving 64.62% test accuracy on CIFAR-10 dataset, implementing batch normalization and dropout for regularization
- Optimized training pipeline with data augmentation (random crops, horizontal flips) and learning rate scheduling, reducing convergence time by 35% while improving validation accuracy by 8%
- Deployed model as interactive web application using Streamlit and Docker, allowing users to upload images for real-time classification with confidence scores and visualization of feature maps

Neural Machine Translation System | Northeastern University | Aug 2025 - Oct 2025

Seq2Seq LSTM-based translation system with attention mechanism for English-French translation

- Reimplemented "Sequence to Sequence Learning with Neural Networks" paper from scratch, achieving BLEU score of 24.3 on English-French WMT14 dataset with 40,000 sentence pairs
- Designed 4-layer LSTM encoder-decoder architecture with Bahdanau attention mechanism, handling variable-length sequences up to 50 tokens with 512-dimensional hidden states
- Optimized training pipeline implementing gradient clipping, teacher forcing with decay schedule, and adaptive learning rate, reducing convergence time by 30% and preventing gradient explosion

INTERESTS/ACTIVITIES

- Published 2 papers on Advanced Retrieval-Based Code Summarization using Meta Learning and Serverless Computing and Its Impact on Application Development