ANURAG KALAPALA

Machine Learning Engineer

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PROFESSIONAL SUMMARY

Machine Learning Engineer with proven experience developing and deploying ML models that deliver measurable business impact through 15-30% accuracy improvements across healthcare, finance, and text classification applications. Skilled in TensorFlow, PyTorch, and cloud deployment with specialized expertise in computer vision, NLP, and statistical modeling. Demonstrated ability to build end-to-end ML pipelines from data preprocessing through production deployment. Seeking opportunities to apply AI/ML expertise in solving complex business challenges and driving innovation.

TECHNICAL SKILLS

Programming Languages: Python, Java, SQL, C++, JavaScript
Machine Learning: TensorFlow, PyTorch, Keras, Scikit-learn, XGBoost, Pandas, NumPy
Deep Learning: CNN, RNN, LSTM, Transfer Learning, ResNet, BERT, Transformers, GANs
NLP: NLTK, SpaCy, Hugging Face, Sentiment Analysis, Topic Modelling
Computer Vision: OpenCV, Image Processing, Object Detection, Medical Imaging Cloud Platforms: AWS, Azure, GCP
Tools: Git, Docker, Flask, Tableau, Power BI, Jupyter, MLflow
Databases: SQL, PostgreSQL, MongoDB, Time-Series Databases

PROFESSIONAL EXPERIENCE

Machine Learning Engineer Intern | Welkin Technologies LLC July 2024 - April 2025

- Developed time-series analysis models for wearable ECG data using Python and signal processing, improving arrhythmia detection accuracy by 15%
- Built fraud detection POC for auto insurance using ensemble ML algorithms, presenting findings to C-level executives
- Implemented real-time health monitoring pipeline processing 10,000+ wearable devices daily
- Created predictive models for patient health risk assessment enabling proactive healthcare interventions

Graduate Research Assistant | University of Massachusetts Lowell January 2024 - May 2024

- Developed deep learning models for sentiment analysis using TensorFlow and PyTorch, achieving 20% accuracy improvement
- Fine-tuned BERT and RoBERTa models for biomedical NER, reducing error rates by 30%
- Published research findings at IEEE International Conference on Machine Learning Applications
- Collaborated on interdisciplinary NLP applications in healthcare and social media analytics.

TECHNICAL PROJECTS

Real-Time Fake News Detection Platform | Python, BERT, NLP, Hugging Face

- Built end-to-end detection system processing 17,500 PolitiFact articles across six truthfulness levels
- Fine-tuned BERT and SBERT models for multi-class misinformation classification
- Developed real-time monitoring dashboard with customizable alerts
- Implemented scalable pipeline processing 1,000+ articles per minute

Skin Lesion Classification System | PyTorch, ResNet-18, Medical Imaging

- Developed skin cancer classification using HAM10000 dataset with 10,015 dermatoscopic images
- Fine-tuned ResNet-18 for seven-class classification achieving 83% test accuracy
- Implemented data augmentation and regularization techniques
- Created model interpretability features using Grad-CAM for clinical decision support

EDUCATION

Master of Science in Computer Science | University of Massachusetts Lowell January 2023 - May 2024

Coursework: Machine Learning, Deep Learning, Computer Vision, NLP, Data Mining

Bachelor of Engineering in Electronics and Communication | Chaitanya Bharathi Institute of Technology

Coursework: Signal Processing, Digital Communications, Data Structures, Statistics

CERTIFICATIONS

Deep Learning Specialization - DeepLearning.AI (2023)
TensorFlow Developer Certificate - Google (2023)
Machine Learning Engineering for Production - DeepLearning.AI (2023)