SHUBHAM GAJJAR

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EDUCATION

Northeastern University, Portland, Maine — September 2025 – May 2027
Master of Science in Artificial Intelligence

LDRP Institute of Technology and Research, Gandhinagar, India — September 2022 – May 2025
Bachelor of Engineering in Computer Engineering, Grade Point Average: 8.41/10.0

VPMP Polytechnic, Gandhinagar, India — September 2019 – May 2022
Diploma in Computer Engineering, Grade Point Average: 9.22/10.0

Relevant Coursework: Machine Learning, Deep Learning, Computer Vision, Data Structures and Algorithms, Image Processing

TECHNICAL SKILLS & CERTIFICATION

Languages: Python, React, JavaScript
Deep Learning: TensorFlow, Keras, PyTorch, CUDA
Computer Vision: OpenCV, Matplotlib, Albumentations
Data Science: NumPy, Pandas
Web: Flask
Certificates: Python for Data Science from Indian Institute of Technology Madras, Python Data Structures from University of Michigan

PROFESSIONAL EXPERIENCE

BigCircle (UPSAAS Technologies LLP), Gandhinagar, India
Artificial Intelligence Engineer — January 2025 – August 2025

- Demonstrated problem-solving by architecting multi-agent Application Programming Interface system using distributed computing, reducing report generation from 20 to 5 minutes for 10,000+ queries
- Exhibited creativity by engineering pagination and authentication systems for dashboards, accelerating page load times by 80%, ensuring model deployment stability for 500+ concurrent sessions
- Applied continuous learning to deliver iOS applications using React Native, increasing mobile engagement by 45% within the first quarter
- Collaborated with a 5-member team in Agile sprints, performing code reviews to improve quality metrics by 30%

KEY PROJECTS & PUBLICATIONS

VGG16-MCA UNet for Brain Tumor Segmentation — Under Review at Elsevier

- Led innovation by designing VGG16-based encoder with Multi-Channel Attention decoder achieving 99.59% accuracy and 99.71% specificity on LGG Brain MRI Segmentation dataset from 110 low-grade glioma patients
- Implemented ensemble learning combining multiple model configurations, improving Dice coefficient by 3.7% over standard UNet through analytical thinking
- Applied data engineering with preprocessing pipeline implementing skull stripping, intensity normalization, and resizing to 256x256 pixels for FLAIR MRI scans, adhering to AI ethics for medical applications

Extended ResNet50 with Inverse Soft Mask Attention for Skin Cancer — Submitted to journal, 2025

- Developed two-stage pipeline combining U-Net++ hair segmentation with Extended ResNet50 classifier featuring Inverse Soft Mask Attention mechanism, achieving 97.89% accuracy on HAM10000 dataset with 10,015 dermoscopic images
- Applied creativity by integrating dense residual blocks and Squeeze-and-Excitation modules with learnable weighted feature aggregation for hair-occluded and unoccluded regions
- Utilized Nadam optimizer with Cosine Decay Restarts and Sparse Categorical Crossentropy loss, incorporating explainable AI principles ensuring model deployment readiness

Hybrid ResNet-ViT for Skin Cancer Classification — Presented at IEEE World Conference, 2025

- Designed hybrid architecture combining frozen ResNet50 feature extractor with four-head Vision Transformer blocks, attaining 96.3% accuracy and macro F1 of 0.961 on HAM10000 dataset
- Integrated Global Average Pooling and multi-head self-attention for seven-class skin lesion classification, achieving Area Under Curve of 1.00 across all classes
- Demonstrated communication skills by presenting research at IEEE World Conference on Applied Intelligence and Informatics to 100+ attendees

Reinforcement Learning Agent for TrackMania — Academic Project, 2024

- Constructed autonomous racing agent using Implicit Quantile Networks for distributional reinforcement learning, achieving 85% track completion rate
- Optimized distributed training framework through problem-solving, reducing training time by 60%