

# 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

**Programming Languages:** Python, JavaScript

**Deep Learning:** TensorFlow, Keras, PyTorch, CUDA

**Computer Vision:** OpenCV, Matplotlib, Albumentations

**Data Science:** NumPy, Pandas, Jupyter, Scikit-learn

**Web Development:** Next.js, React, JavaScript, Tailwind CSS, Flask

**Tools:** Git, Vercel, Framer Motion

**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%