

# SHUBHAM GAJJAR

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## EDUCATION

**Northeastern University**, Portland, Maine  
*Master of Science in Artificial Intelligence*

September 2025 – May 2027

**LDRP Institute of Technology and Research**, Gandhinagar, India  
*Bachelor of Engineering in Computer Engineering*, Grade Point Average: 8.41/10.0

September 2022 – May 2025

**VPMP Polytechnic**, Gandhinagar, India  
*Diploma in Computer Engineering*, Grade Point Average: 9.22/10.0

September 2019 – May 2022

**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, Seaborn

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

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

**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

- Developed end-to-end Deep Research pipeline using Python orchestrating ML prompt generation, Firecrawl API for web scraping, ChatGPT API summarization, graph visualization with Matplotlib and Seaborn, and automated Typst PDF reports; optimized API call efficiency reducing processing time by 75%
- Engineered pagination and authentication systems using JavaScript and Next.js, accelerating page load times by 40% with Docker containerization for 500+ concurrent sessions
- Collaborated with cross-functional teams including product managers and non-technical stakeholders to deliver iOS applications using React Native
- Worked in 5-member Agile team using Git for version control; performed code reviews to improve code quality and maintainability

## KEY RESEARCH PROJECTS

**Hybrid ResNet-ViT for Skin Cancer Classification**

Published in IEEE, 2025

- Hybrid architecture using TensorFlow combining frozen ResNet50 with Vision Transformer blocks, achieving 96.3% accuracy on HAM10000 dataset
- Integrated multi-head self-attention for seven-class classification with Area Under Curve of 1.00; visualized performance using Matplotlib
- Presented research at IEEE World Conference on Applied Intelligence and Informatics

**Extended ResNet50 with Inverse Soft Mask Attention for Skin Cancer**

Submitted to journal, 2025

- Two-stage pipeline using TensorFlow and Keras with U-Net++ hair segmentation and Extended ResNet50 classifier, achieving 97.89% accuracy on HAM10000 dataset
- Integrated dense residual blocks and Squeeze-and-Excitation modules with weighted feature aggregation
- Conducted 21 architectural trials with custom attention mechanisms outperforming baseline methods

**VGG16-MCA UNet for Brain Tumor Segmentation**

Under Review at Elsevier

- VGG16-based encoder with Multi-Channel Attention decoder using TensorFlow, achieving 99.59% accuracy on LGG Brain MRI dataset
- Ensemble learning combining multiple Keras configurations improved Dice coefficient by 3.7% over standard UNet
- Preprocessing pipeline with NumPy and Pandas implementing skull stripping and intensity normalization using Scikit-learn

**Reinforcement Learning Agent for TrackMania**

Academic Project, 2024

- Autonomous racing agent using PyTorch implementing Implicit Quantile Networks with NumPy, achieving 85% track completion
- Optimized training framework using CUDA for GPU acceleration, reducing training time by 60%