MAITRI SHAH

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PROFILE

Results-driven computer vision and network engineer specializing in deep learning and image processing. Developed AI-powered solutions that enhance industrial automation and optimize decision-making processes. Achieved success in cross-functional collaboration and innovative problem-solving. Proven ability in agile project execution and maintaining effective client communication. Seeking opportunities to leverage technical expertise in AI-driven automation and intelligent systems to contribute to organizational success.

WORK EXPERIENCE

SEMITRONIK INSTRUMENTS | GANDHINAGAR | MARCH 2021 – MARCH 2022

- Delivered 6+ custom computer vision solutions, reducing manual processing time by 95%.
- Developed LabVIEW applications with optimized image processing, boosting system efficiency by 90%.
- Collaborated with cross-functional teams to integrate computer vision capabilities into various projects, leading to improved product features and meet 100% of project deadlines and client requirements.
- Mentored 3 junior engineers, enhancing team productivity by 20%.
- Managed post-deployment releases, achieving 95% client retention across iterative updates

ADANI PORTS & SEZ | MUNDRA | DECEMBER 2019 – MARCH 2020

- Simulated network topologies in Cisco Packet Tracer; optimized routing and switching protocols.
- Deployed network infrastructure, including VLANs and firewall configurations.
- Monitored and troubleshot network issues, improving system uptime and reliability.
- Documented configurations and authored technical manuals for internal use.
- Assisted senior engineers on enterprise-grade network design and implementation.

PROJECT

BRAIN ANEURYSM DETECTION

- Model Development: Architected and trained a ResNet-18 CNN on IntrA dataset (103 3D angiograms), achieving state-of-the-art 96% classification accuracy for aneurysm detection.
- Data Pipeline Engineering: Transformed 3D medical images to optimized 2D inputs through advanced preprocessing (window-level normalization) and augmentation (affine transformations).
- Class Imbalance Solution: Implemented weighted cross-entropy loss with class weights, improving minority class (aneurysm) recall by 22% to 0.95 while maintaining 1.00 precision.
- Explainable AI: Generated Grad-CAM activation heatmaps to validate model decisions, increasing clinical interpretability by 40%.
- Technical Stack: Leveraged PyTorch for model development, OpenCV for image processing, and Scikit-learn/SciPy for statistical validation.

CRACK MONITORING SYSTEM

- System Architecture: Designed and deployed a distributed LabVIEW client-server system integrating 20 industrial cameras with 5 monitoring stations, enabling real-time defect detection at 30 FPS.
- AI Integration: Developed and deployed Adaptive Vision Deep Learning models achieving 90% mean precision in crack detection, reducing false positives by 35% compared to traditional methods.
- Database Optimization: Implemented SQL query optimizations that reduced report generation time from 15s to 3s (80% improvement) for production analytics.
- UI/UX Innovation: Created an intuitive diagnostic interface that decreased support team resolution time by 20%, handling 10,000+ inspections/month.
- Technical Stack: NI LabVIEW, Adaptive Vision DL, SQL Server, OpenCV, Python (for model validation).

EDUCATION

MASTER OF TECHNOLOGY IN COMPUTER SCIENCE ENGINEERING (AI & ML) | 2024 - PRESENT | PDPM IIIT, JABALPUR | CPI: 9.8

BACHELOR OF TECHNOLOGY IN ELECTRONICS & COMMUNICATION ENGINEERING| 2016 - 2020 | DHARMSINH DESAI UNIVERSITY, NADIAD | CPI: 7.66

HARD SKILLS

- Python, C, LabVIEW
- SQL databases
- Data Structures and Algorithm
- Git/GitHub
- Computer Networks
- Pytorch, Tensorflow & Keras
- Operating Systems
- Deep Learning Algorithms

SOFT SKILLS

- Collaboration and Teamwork
- Commitment to Learning and Growth
- Effective Project Management and Flexibility
- Adaptability