

PREMAL SHAH

Data Science | Software Development | Machine Learning | Cloud Computing

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EDUCATION

MS in Data Science- *University of Maryland, College Park* | Present - 2026 (Expected)

B.E in Information and Communication Technology- *Gujarat Technological University* | CGPA:8.12/10.00 | 2020 - 2024

EXPERIENCE

Full Stack Developer | Project DAWN, University of Maryland at College Park *July 2024 - Present*

- Co-ordinating full-stack development for DAWN, an NSF-funded University of Maryland project, building predictive analytics tools that are improving agricultural decision-making accuracy by 30% and contributing to a 20% increase in sustainability metrics across 5 Midwest states.

Data Science Intern | Tusker AI, Ahmedabad *January 2024 - June 2024 , August 2023 - November 2023*

- Modeled predictive analytics at Tusker AI to enhance building energy efficiency and reduce fossil fuel dependency.
- Led AI tool integration for forecasting equipment failure, optimizing retrofit timing, and increasing renewable energy adoption.
- Enhanced image and video analysis neural networks, boosting accuracy by 10% and reducing training time by 20%.
- Ensured AI solutions complied with security standards through detailed performance analysis and troubleshooting.

Software Development Intern | Softvan Pvt Ltd, Ahmedabad *March 2022 - June 2022*

- Developed & deployed 10+ APIs using J2EE & Spring framework for enterprise applications, improving data flow efficiency by 15%.
- Engineered a voice-integrated system using serverless architecture on AWS, reducing operational costs by 25%.

RESEARCH EXPERIENCE

Transfer Learning-based Emotion Detection System (Published at [IEEE Xplore](#))

- Planned an emotion detection system with 95.23% accuracy and 2803s training time, enhancing emotional stability in stressful workplaces.

Hybrid Convolutional Neural Model for Sign Language Recognition

- Illustrated a CNMAMs model with 97.92% accuracy for double-handed & 95.80% for single-handed sign language recognition. (Under Revision)

Exploring the Benefits of Artificial Intelligence in Business Optimization for IOMT Environment

- Authoring a chapter on AI for business optimization in IoMT, projecting 34% market growth and 20% cost reduction, currently under revision.

Peer Reviewer | International Journal of Computing and Digital Systems *January 2024 - June 2024*

PROJECTS

EnergyDemand Forecasting (ML project)

- Computed AI models for electricity price prediction, improving forecast accuracy by 15% over Spanish TSO's 24-hour predictions.
- Integrated energy and weather data from ENTSOE and TSO, enhancing demand and price prediction precision while applying machine learning techniques, including Random Forest and LSTM, reducing MAE by 12%.

HR Automation (AI/ML Project)

- Designed an AI-powered automated resume parsing & candidate selection recruitment system, reducing the screening time by 50%.

Source Code Generation (Software Development Project)

- Created a Spring Boot project automating source code generation, enhancing development speed by 20% with pre-built templates for CRUD operations and RESTful APIs.

TECHNICAL SKILLS

- Languages:* Python, Java, HTML5, CSS
- Technologies & Frameworks:* Spring-Boot, Hibernate, J2EE
- Cloud Services:* AWS (Lambda, EC2, S3)
- Machine Learning:* Supervised & Unsupervised Learning, Neural Networks, NLP
- AI Frameworks & Libraries:* TensorFlow, Pandas, NumPy, Scikit-learn, OpenCV

CERTIFICATIONS

Machine Learning Specialization, Stanford University, DeepLearning.AI

Project Management Specialization, Google

LEADERSHIP

Volunteer, Maryland Mentor Corps: *Present*

Community Volunteer & Co-ordinator, Manilal Gandhi Charitable Trust and Old-Age Home: *May 2018 - May 2024*

Teaching Assistant, Cloud Workshop, Ahmedabad: *June 2023:* Taught undergraduates about AWS services like Lambda and EC2.