DHRUPA MISTRY

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CAREER OBJECTIVE

Dedicated and enthusiastic Computer Engineering professional with completed M.Tech in Computer Engineering and strong knowledge in Artificial Intelligence, Machine Learning, Deep Learning, NLP, and Data Science. Always curious to learn new technologies, improve skills, and gain practical knowledge through new opportunities and experiences. Passionate about teaching and helping students understand complex concepts in a simple and practical way. Able to apply knowledge and experience effectively with a positive attitude, problem-solving mindset, and continuous learning approach.

EDUCATIONAL QUALIFICATIONS

M.Tech – Computer Engineering	G H Patel College of Engineering & Technology, CVMU	2024–2026	**CGPA: 9.61**
B.E. – Computer Engineering	A.D. Patel Institute of Technology, CVMU	2020–2024	**CGPA: 8.70**
HSC – GSHEB	New Education High School, Petlad	2020	**75.16%**
SSC – GSHEB	New Education High School, Petlad	2018	**90%**

M.TECH DISSERTATION

Advancements in Text-to-Image Generation: Improving Quality and Semantic Alignment through Deep Learning

Developed a context-aware hybrid framework using Stable Diffusion v1.5 for improving semantic alignment in text-to-image generation. The proposed system integrates BLIP-based automatic caption generation, LoRA-based parameter-efficient fine-tuning, and CLIP-guided multi-candidate image selection. Implemented on the MS COCO dataset and evaluated using CLIP Score for semantic alignment improvement.

PUBLICATIONS & RESEARCH WORK

Book Chapters

Machine Learning and Artificial Neural Network Approaches for Fake News Detection: Architectures, Challenges, and Future Directions

Artificial Neural Network for STEM Innovation – Theory, Application and Parameter Prediction | Variety Books Publishers Distributors | ISBN: 9789363916920 ***[Accepted Book Chapter]***

Generative Artificial Intelligence with Diffusion Models for Media and Entertainment

Handbook of Deep Learning Methods for Digital Image Processing | CRC Press, Taylor & Francis Group (Scopus Indexed) ***[Abstract Accepted & Submitted book chapter]***

Listening to the Unspoken: AI-Driven Stress and Mood Detection through Emotionally Intelligent Wearables

Emotionally Intelligent Wearables: AI-Driven Adaptive Interfaces for Personalised Healthcare | *Bentham Science (Scopus Indexed)* ***[Selected & Submitted book chapter]***

Conference Paper [National Conference]

Machine Learning and Deep Learning Approaches to Detect Fake News
National Conference | *Oral Presentation of paper*

INTERESTED SUBJECT AREA

Database Management Systems | Data structures and algorithms | Artificial Intelligence | Machine Learning | Deep Learning | Natural Language Processing (NLP) | Data Science

ACADEMIC PROJECTS

Text-to-Image Generation using Stable Diffusion (M.Tech Major Project)

- Implemented hybrid deep learning framework using Stable Diffusion, CLIP, BLIP, and LoRA for semantic image generation
- Improved prompt-image alignment through multi-candidate CLIP-guided selection and parameter-efficient fine-tuning

Heart Disease Prediction and Risk Analysis using Machine Learning

- Developed predictive ML classification models using clinical datasets with feature engineering for improved accuracy

Pneumonia Detection using Deep Learning

- Built CNN-based model for chest X-ray image classification with efficient medical image prediction performance

Fake News Detection using Machine Learning and Deep Learning

- Developed a fake news detection system using NLP and Machine Learning techniques for classifying news articles as fake or genuine.

Text Sentiment Classification using NLP and Data Visualization

- Performed sentiment analysis on Twitter data using NLP techniques to classify sentiments into positive, neutral, and negative categories

AI-Based Image Caption Generation using Deep Learning

- Developed an AI-powered image caption generation system capable of automatically generating descriptive captions from uploaded images

Cargar-EV Backend System (Industry Project – VasyERP)

- Developed RESTful APIs for EV charging platform using Java Spring Boot and PostgreSQL. Implemented payment integration, GST verification, and automated reporting modules

INDUSTRY EXPERIENCE

Software Developer Intern – VasyERP

Duration: January 2024 – July 2024

- Developed backend APIs using Java Spring Boot for an EV charging management platform
- Worked on PostgreSQL database optimization and automated reporting systems

- Demonstrated teamwork and leadership by coordinating tasks, supporting peers, and ensuring smooth project execution
- Delivered technical presentations to team members and stakeholders, explaining system designs and updates clearly

ReactJS Intern – TatvaSoft

Duration: May 2023 – June 2023

- Developed responsive UI components using ReactJS; collaborated on frontend design and development

TECHNICAL SKILLS

AI / ML:	Machine Learning, Deep Learning, NLP, Stable Diffusion, CLIP, BLIP, LoRA, Google Colab, Jupyter Notebook
Data Science & Analytics:	Pandas, NumPy, Matplotlib, Data Visualization
Programming:	C,C++, Python, Java, SQL
Web Technologies:	HTML, CSS, JavaScript, PHP, Spring Boot
Database & Tools:	PostgreSQL, Git & GitHub, Vs Code

CERTIFICATIONS

- Python Machine Learning: From Beginner to Pro – Udemy
- Data Analysis with Python
- Introduction to Artificial Intelligence

CORE STRENGTHS

- Strong communication, presentation, and student mentoring skills
- Practical, application-driven teaching approach with real-world examples
- Quick learner, adaptable, and committed to continuous professional development
- Passionate about teaching, research, and student skill development
- Good technical project development and implementation knowledge

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DECLARATION

I hereby declare that the above information is true and correct to the best of my knowledge and belief.

Mistry Dhrupa Brijeshkumar

Date: 05/06/2026
Place: Anand