

Karishma M. Patel

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PROFESSIONAL SUMMARY

Dynamic and research-driven scholar specializing in Artificial Intelligence, Machine Learning, and Natural Language Processing, with a strong academic foundation in Computer and Information Sciences. Currently pursuing a Master's degree at the University of Rajasthan and a Gold Medalist (BCA, Amity University Rajasthan).

My research interests lie at the intersection of Computer Science, Marketing, and Behavioral Analytics, where I explore how AI and NLP can model, interpret, and ethically influence consumer behavior and decision-making. I am particularly interested in developing data-driven frameworks for understanding market dynamics, integrating computational modeling with insights from psychology, linguistics, and economics.

Alongside my research pursuits, I am deeply passionate about academic teaching and mentorship, and I look forward to contributing to university-level education through interdisciplinary, project-based learning approaches. With prior experience in research assistance, mentorship, and cross-domain collaboration, I aim to advance research that bridges technological innovation and human-centered application, fostering responsible and impactful advancements in AI and its societal integration.

EDUCATION

Master's in Computer Applications(MCA)	University of Rajasthan	Jul 2024 – Aug 2026	CGPA : 5.54 / 6
Bachelor of Computer Applications (BCA)	Amity University Rajasthan	June 2021-2024	CGPA: 8.93/10
High School (Science)	St. Norbert School	May 2007 – Jan 2020	94.4 %

RESEARCH EXPERIENCE & PUBLICATIONS

- Machine Learning-Based Contrast Enhancement for Enhanced Visualization of COVID-19 and Pneumonia Lesions in Chest X-ray Images – IEEE Conference, 2025
- Microvia: A Forensic and Genomic paradigm unifying DNA- microbiome interactions for spatial provenance prediction. Presented in conference,
- Algorithmic Attachment Disorder: Detecting and Preventing Emotional Dependency in Human–AI Relationships .
- The Self-Limiting Dynamics of AI Automation: A Chessboard Model of Economic Collapse .

SELECTED PROJECTS

- Gesture-Controlled Virtual Piano – Real-time piano via finger tracking (OpenCV, NumPy, Pygame).
- EthicEcho – AI-human interaction monitoring tool for emotional safety (Python, NLP).
- AI Chessboard Economy Simulation – Multi-agent model for automation-driven economic impact (Python).
- BizML – Python library for predictive business analytics (forecasting, churn prediction, dashboards).
- CytoGuard – Computational design of eco-safe water softeners formula derived from data analysis and cleansing,
- Sequence Analyzer – Bioinformatics toolkit for DNA pattern analysis (Python).
- Lorenz Attractor Simulation – Chaos theory visualization using NumPy.

TECHNICAL SKILLS

Programming: Python, SQL, C++, HTML,CSS,JS  
AI/ML Tools: NumPy, OpenCV, Scikit-learn, TensorFlow ,NLTK, spaCy  
Visualization & BI: Tableau, Power BI, Pandas, Matplotlib  
Other Tools: Git,LaTeX, Draw.io, Microsoft Visio (Flowchart Maker)

## CERTIFICATIONS

- Programming in C++ – My Captain
- Python 3.4.3 Training – IIT Bombay
- Spanish Language Certification – Amity University Rajasthan

## SCHOLARSHIPS AND ACHIEVEMENTS

- Academic Gold Medalist – BCA, Amity University Rajasthan.
- Merit based scholarship recipient 2021-2022, 2022-23
- Class Representative – Amity University Rajasthan (2021–2023).
- Chess Champion –University tournaments (1st & 2nd) 2021 , 2022, 2023

## LANGUAGES

English, Hindi, Kannada, Marwadi

## INTERESTS

NLP Research, Data Visualization, Chess, Creative Writing, Entrepreneurship, Language Learning (German, Spanish)