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 an academic Gold Medalist (BCA, Amity University Rajasthan) and a minor degree in Psychology.

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 | Jun 2021 – 2024
  CGPA: 8.93 / 10
  Minor in Psychology and Spanish
  Academic Gold Medalist

- **High School (Science)**
  St. Norbert School | May 2007 – Jan 2020
  Percentage: 94.4%

INTERNSHIP AND WORK COLLABRATIONS

Research Collaborator | ,Dr. Karthik G. L VIT Bhopal University
- Co-developed a novel agent-based "Chessboard Model" with Dr. Karthik G. L to simulate the self-limiting dynamics and economic collapse potential of AI automation.
- Designed and implemented core simulation logic, defining agent interactions and economic rules to study emergent systemic feedback loops.
- Co-authored the research manuscript, *"The Self-Limiting Dynamics of AI Automation."* for academic publication.

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 Paper

• Algorithmic Attachment Disorder: Detecting and Preventing Emotional Dependency in Human–AI Relationships .
Paper

• The Self-Limiting Dynamics of AI Automation: A Chessboard Model of Economic Collapse . Paper

• Microvia: A Forensic and Genomic paradigm unifying DNA- microbiome interactions for spatial provenance prediction. (ongoing)

PROJECTS

• Gesture-Controlled Virtual Piano – Real-time piano via finger tracking (OpenCV, NumPy, Pygame). [Project](#)

• EthicEcho – AI-human interaction monitoring tool for emotional safety (Python. [Project](#)

• AI Chessboard Economy Simulation – Multi-agent model for automation-driven economic impact (Python). [Project](#)

• BizML – Python library for predictive business analytics (forecasting, churn prediction, dashboards). [Project](#)

• CytoGuard – Computational design of eco-safe water softeners formula derived from data analysis and cleansing.
  [Project](#)

• Sequence Analyzer – Bioinformatics toolkit for DNA pattern analysis (Python). [Project](#)

• Lorenz Attractor Simulation – Chaos theory visualization using NumPy. [Project](#)

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

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