

Rushin Bhatt

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EDUCATION

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- Columbia University** New York, NY
Master of Science in Data Science 2025 - 2027
 - Pandit Deendayal Energy University** Gandhinagar, India
Bachelor of Technology in Computer Science, GPA: 3.7/4.0 (Student Research Assistant) 2021 - 2025

RELEVANT COURSEWORK

Data Structures & Algorithms, Database, OS, Computer Networks, Big Data, Cloud, Software Engineering, Probability & Statistical Inference, Machine Learning, Neural Networks, Visualisation, NLP, High Performance GPU Computing, Agentic AI SKILLS

Python (Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, NLTK), C, R, Java, JavaScript(Node.js, React.js), PHP, SQL, MongoDB, AWS, GCP, LaTeX, AI Agents (VLMs, LLMs, Exa AI, CrewAI, Pydantic, LangGraph, LangChain), CUDA

EXPERIENCE

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- Machine Learning Intern - Fynd (Shopsense Retail Technologies Ltd.)** Mumbai, India
Handled multiple machine learning projects across two internship terms. June - Aug 2024, Jan - May 2025
 - AI Catalog Enrichment:** Engineered an AI-driven catalog enrichment pipeline for brands including Veromoda, Ajio & Tira, integrating VLMs (GPT-4o, Gemini 2.0 Pro, DeepSeek VL2) and LLMs (Claude AI, GPT-3.5-Turbo) with search-based retrieval (Exa AI, SerpAPI, Perplexity Deep Research), which increased product attribute extraction accuracy by 37%. Got the opportunity to work on the product side as well, directly under the CTPO, making it a perfect blend of tech and product.
 - Dynamic AOP:** Formulated a dynamic annual operations forecasting system using XGBoost, AdaBoost, and hybrid ML models, leading to a 20% improvement in annual demand prediction precision.
 - Virtual Try-ons:** Implemented the SewFormer virtual try-on framework, enhancing garment fit prediction accuracy by 18%.
 - Machine Learning Research & Development Intern - Dolcera Corporation** San Mateo, USA
Conducted research on maximizing the effectiveness of AI tools in development teams. Dec 2024 - Jan 2025
 - LLM Productivity Optimization Research:** Conducted applied research on AI-assisted productivity tools, demonstrating a significant uplift in cross-team efficiency. Explored advanced prompt engineering techniques for LLMs by analyzing developer usage patterns across arXiv, HackerRank, Reddit, and GitHub resulting in a 22% gain in response accuracy and consistency.
 - Software Engineering Intern - Visity** Ahmedabad, India
Built a chatbot for Visity using OpenAI API with a Node.js backend. Feb 2024 - April 2024
 - Chatbot Development:** Architected and launched a customer-facing chatbot using OpenAI APIs and Node.js, deployed on the company's production website and actively serving 2,000+ monthly users. Enhanced chatbot reliability by building automated error-handling mechanisms, achieving a 95% uptime during live usage. Linked the chatbot to WhatsApp as well.
 - Software Development Intern - Source Pro Infotech Pvt Ltd.** Ahmedabad, India
Developed a chatbot model for one of their clients using TensorFlow and NLTK in Python. Oct 2023 - Feb 2024
 - The Chatbot:** Constructed an enterprise-grade chatbot solution for client deployments, leveraging TensorFlow and NLTK in Python to deliver scalable conversational intelligence.
 - Web Integration:** Incorporated a web-based interface for the chatbot, boosting accessibility among client employees by 40%. Optimized accuracy by 30% through data refinement, including semantic preprocessing, stemming, and vocabulary integration.
 - Data Analyst - SciKnowTech** Ahmedabad, India
Analyzed datasets including student information, fee transactions, and marksheets. Aug 2022 - June 2023
 - Role & Tools:** Processed and interpreted large-scale student datasets (attendance, transcripts, fees, test results), delivering insights that improved academic reporting accuracy by 25%. Automated data pipelines leveraging Python (Pandas, NumPy), Power BI, and Tableau, which decreased manual report preparation time by 40%.

PROJECTS

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- KickClone:** Optimized football player replacements by using cosine similarity on player embeddings stored in a vector database.
 - TuneCraft:** Analyzed and visualized song similarity using multi-layer neural networks and 3D tensor embedding projections.
 - Zyber Chat:** Implemented MERN and developed a cipher-based locker and chat interface using the Kyber algorithm in Java.

PUBLICATIONS / RESEARCH WORK

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- Advancing the Computational Architecture of Digital Audio Workstations:** Under review- Computer Music Journal (MIT)
 - KickClone: A Model built to Revolutionize Football Scouting:** Published- AIMV 2025 (IEEE)
 - A Detailed Exploration of the Security Issues in Educational Applications:** Published- ICT4SD 2024 (Springer Nature)
 - Enhancing Transportation Infrastructure: A Deep Learning Approach for Pothole Detection:** ICCCNT 2024 (IEEE)
 - A Pioneering and Reliable Technique for Optimizing Aerial Route Planning:** Published- IJIMS (Inderscience)

ACHIEVEMENTS & INTERESTS

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- Attained distinction in all Trinity College of London Classical Piano, Music Theory, and Rock&Pop music examinations.
 - Hosted and performed at 4 solo piano concerts, including a fundraiser where we raised over \$6000.
 - Represented Gujarat (my state) in the Reliance Cup soccer tournament for 3 consecutive years.
 - Selected as a Research Intern at IMT Brazil (São Paulo), to work on Autonomous Vehicles under Prof. Eduardo LL Cabral.
 - Former Treasurer at Computer Society of India (PDEU Chapter), between April 2023 to December 2023.