PREET PATEL

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Education

Master of Science in Computer Science | University of Illinois, Chicago   Expected: May 2027
Coursework: Cloud Computing, Cybersecurity, Secured Web-Application Development

Bachelor of Technology in Computer Science | Ahmedabad University   May 2025
Coursework: Artificial Intelligence, Machine Learning, Advanced Business Analytics, Computer Networks

Internship Experience

yourEDUGATOR   May 2025 – August 2025
Product Development Intern   *Ahmedabad, Onsite*

- Worked closely with the CEO to build an AI-powered IELTS Speaking module; integrated Azure Speech SDK, ElevenLabs STT, OpenAI `tts-1`, elevating speaking practice throughput by 3×.
- Built ETL pipelines processing JSON-schema datasets for Reading, Listening, and Writing; used OpenAI API and DALL-E 3 to auto-generate Writing Task-1 diagrams, boosting question bank coverage by 120%
- Developed RAG-based internal assistant (LangChain + OpenAI) indexing 200+ design docs, reducing knowledge lookup time by 50%.

Techsture Technologies Ind. Pvt. Ltd.   May 2024 – August 2024
Research Intern   *Ahmedabad, Onsite*

- Deployed real-time C-V2X-based Pedestrian Detection and Alert Dissemination ITS testbed; validated 10+ scenarios demonstrating the robustness; achieved <10ms latency with multi-threaded UDP + SNMP monitoring.
- Developed and automated TCP/DNS network pipeline for server–RSU and RSU-OBU alerts, streamlining data flow reliability across vehicular networks.
- Used OpenStreetMap and JavaFX to develop a dashboard to track the vehicle's location and display alert messages.

Publications

P.Patel and D.K.Patel, "**Capacity Analysis of Vehicular Networks in a Multi-User Mixed Traffic Scenario**," NCC2025, IEEE, pp.1-6. DOI:10.1109/NCC63735.2025.10983153

Technical Skills

- **Languages**: Python, JavaScript/Typescript, Powershell, Ruby, Java, Go, Scala, C/C++, C#, R, KornShell
- **Databases**: MySQL, Oracle, MongoDB, PostgreSQL
- **Technologies**: PowerBI, Tableau, AWS, GCP, Kubernetes, Replit, Cursor, Windsurf, Azure, Git, Docker, LaTeX
- **Frameworks**: Node.js, Express.js, Next.js, React.js, Spring, Flask, Django, RESTFul APIs, FastAPI, OpenCV, TensorFlow, PyTorch, Spark, Kafka, Hadoop, scikit-learn, MySQL, Oracle, MediaPipe, MLFlow

Projects

Distributed Word Embeddings with Hadoop and AWS EMR   August 2025 – September 2025

- Engineered a distributed RAG index on 600+ MSR papers with Ollama 3.18b + Hadoop and AWS EMR, achieving 2.5× higher query throughput and 30% lower memory usage through optimized preprocessing and multi-node inference.
- Designed clustering, anomaly detection, and a lightweight neural reranker in Spark, boosting document selection and retrieval accuracy by 30%.
- Created a Lambda-based AI agent swarm that synthesized insights and proposed novel research directions.

AI-powered College Finder Platform   May 2025 – July 2025

- Built GPT-4 recommendation system with 95% accuracy matching students to colleges based on their academic profiles.
- Developed Flask web app with RAG-based AI chatbot handling multiple user queries for personalized guidance.
- Created web scraping pipelines using Selenium and Beautiful Soup, increasing data coverage by 150%.

RAND-SLA: A Randomized Bayesian Structure Learning Algorithm   September 2024 – November 2024

- Introduced a novel randomized algorithm for efficient skeleton learning of Bayesian Networks.
- Reduced redundancy in Conditional Independence tests by randomly selecting conditioning variables.
- Achieved faster convergence with up to 34% less computation time while maintaining competitive accuracy on benchmark datasets.

Leadership & Activities

- **Research Scholar, MICxN Lab:** Led 5+ workshops and reproduced 15+ research papers in the tenure of 1.5 years. Reviewed 50+ manuscripts of the junior research scholars.
- **Clash of Codes:** Team ranked 1/20 in a competitive coding-based team competition organised by the university in season 1 (2023) and 2/20 in season 2 (2024); 4/80 in individual scores and 3rd in problems solved.
- **Teaching Assistant & Peer Tutor, Ahmedabad University:** Assisted the professors in courses like AI, Embedded Systems, Computer Networks, and Predictive Analytics for Business (classes up to 130 students).