

# Vishrut Patel

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## Education

### University of Illinois Chicago, Chicago, IL

*BS in Computer Science*

Dec 2026

*Related coursework:*

GPA: 3.91/4.00

*Machine Learning, Data Structures, Machine Organization (Assembly), Languages & Automata,  
Software design, API Design & Usage, Algorithms & Artificial Intelligence*

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## Experience

### Department of Engineering, UIC

Sept 2025 – Present

*Research assistant*

- Built an hallucination-detection pipeline using PyTorch to automate reliability checks in patent analysis.
- Engineered a synthetic dataset workflow with OpenAI APIs to generate 150,000+ high-fidelity patent Q&A pairs for benchmarking.
- Developed a lightweight classifier using Llama-3-70B hidden states to detect hallucinations without model fine-tuning, cutting compute costs by 90%.

### Technology Solutions, UIC – Managed Technology Services (MTS)

Aug 2025 – Present

*Computer Technician*

- Deploy and manage university issued computers with Intune, and TDX, ensuring consistent configurations.
- Install antivirus and enforce security policies, protecting sensitive university data and meeting compliance.
- Resolve technical issues related to VPN, Wi-Fi, printers, and Microsoft, reducing downtime.

### Department of Engineering, UIC

July – Aug 2025

*NLP Intern*

- Designed an LLM framework for drafting patent abstracts and claims, streamlining the legal writing process.
- Applied zero-shot and few-shot prompting strategies with LLAMA 3, GPT-4, and Gemini 1.5 to generate legally coherent and semantically precise patent documents.
- Built an evaluation pipeline with BERTScore, ROUGE, BLEU, and Cosine, improving accuracy and validations from LLM.

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## Projects

### Library-Search

- Built an agentic AI system that analyzes user prompts and recommends an optimal tech stack using Brave Search API and LLM-driven reasoning.
- Designed a multi-stage LangGraph workflow to autonomously generate detailed technical recommendations.
- Engineered an extensible framework with a roadmap to auto-generate full project, terminal-ready, tech stack.

### CSync (PERN Stack)

- Built a full-stack web app with PERN stack to let CS students post, share, and collaborate on project ideas.
- Engineered authentication, role-based access, and real-time messaging using JWT, WebSocket, and encryption for secure collaboration.
- Delivered a responsive UI and scalable APIs to provide an engaging experience and reliable performance across multiply devices.

### Stock Market Price Classifier (Python)

- Built a ML model with Scikit-learn's RandomForestClassifier to predict stock price movement with 62% accuracy.
- Utilized yfinance API and Pandas to collect, clean, and structure real-time financial data for model training.
- Implemented backtesting and evaluation techniques to validate model performance and reduce overfitting risk.

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## Skills & Certificates

Java, C++, Python, HTML, CSS, JS, React, Node.js, Express.js, TypeScript, MySQL, F#, MongoDB, Linux, NLP, LLM Integration, AI Model deployment, Agile development, Amazon Web Services (AWS)