Navraj Singh

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EDUCATION

University of Virginia — Charlottesville, VA
Bachelor of Science in Computer Science — *Aug. 2023 – Present*
Coursework: Data Structures, Algorithms, Machine Learning, Software Development, Computer Architecture

EXPERIENCE

Undergraduate Research Assistant — January 2025 – Present
University of Virginia — *Charlottesville, VA*
- Implemented Perturbation Sensitivity Analysis to detect biases in models across social groups and institutions.
- Analyzed model outputs to uncover bias patterns in sentiment and toxicity classifications.
- Proposed bias mitigation strategies to improve fairness in text classification models.

Software Engineering Fellow — Jun. 2024 – Aug. 2024
Headstarter AI — *Queens, NY*
- Built and deployed 5+ AI apps with NextJS, OpenAI, and Stripe, achieving 98 percent accuracy.
- Led a team of 4 fellows through Agile workflows, emphasizing MVC patterns and CI/CD best practices.
- Coached by Amazon, Bloomberg and Capital One engineers on Agile, CI/CD, Git and micro-service patterns.

AI Training Advanced Coder — May 2024 – Dec. 2024
Outlier AI — *Queens, NY*
- Conducted 150+ detailed reports on AI models, achieving 95% accuracy in coding tasks across 150+ test cases.
- Tested AI models' capabilities in linear algebra, probability and code generation to ensure precise analytic skills.
- Implemented 100+ Python-based test methods to verify the efficiency and accuracy of AI-generated code.

Full Stack Developer — May 2024 – Jul. 2024
Odin Project — *Queens, NY*
- Gained proficiency in web development tools: Text Editors, Command Line, Flexbox, and DOM manipulation
- Developed interactive webpages using HTML, CSS, and JavaScript, showcasing front end development skills
- Utilized Git for version control, Node.js for JavaScript runtime environment, and dev. tools for efficient coding.

PROJECTS

AI Flashcards | *Python, Java, Stripe, Next.js, React, Firebase, Clerk, Pinecone* — Aug. 2024 – Sep. 2024
- Built an AI-powered flashcard app using OpenAI API for content generation and Stripe for payment.
- Reached 500+ users with 90% satisfaction while utilizing marketing strategies
- Enhanced skills in API integration, automated content creation, and e-commerce functionalities

AI Rate My Professor | *Python, JavaScript, Next.js, OpenAI API, Pinecone* — May 2018 – May 2020
- Designed an AI assistant for rating professors using RAG to gather and retrieve data based on 100+ data points.
- Utilized a vector database allowing fast retrieval of similar items and scalabilit for real world use.
- Strengthened skills in AI-powered recommendations and data-driven UX design

PROFESSIONAL GROWTH

Supervising Tutor — January 2024 – Present
Princeton Review's Tutor.com — *Queens, NY*
- Provided expert tutoring in CS and mathematics to over 200+ students, enhancing communication skills.
- Guided students to master topics and develop problem-solving skills in a productive learning environment.

TECHNICAL SKILLS

Languages: Java, Python, C, SQL (Postgres), JavaScript, HTML/CSS
Frameworks: React, Node.js, NumPy, JUnit, Material-UI, OpenAI API, Next.js
Developer Tools: Git, Docker, Google Suite, VS Code, Visual Studio, PyCharm, IntelliJ, Jupyter Notebook, Pinecone, Firebase, AutoCAD
Libraries: pandas, NumPy, Matplotlib