

Shivam K. Patel

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EDUCATION

Rutgers University-New Brunswick

B.S. in Computer Science and Data Science

Piscataway, New Jersey

Expected Graduation, May 2026

- **GPA:** 3.5/4.00, Dean's List
- **Related Coursework:** Data Structures & Algorithms, Discrete Math I/II, Regression Methods, Internet Technology, Computer Architecture, Software Methodology, Statistical Learning, Design and Analysis of Algorithms

EXPERIENCE

Rutgers University

Undergraduate Research Assistant

New Brunswick, New Jersey

May 2023 – Dec 2023

- Collaborated with a research team to analyze data from 15+ behavioral experiments, leveraging statistical models and R to validate theories on human memory, increasing research accuracy by 30%.
- Applied the Conditional Associative Accuracy (CAA) Model to recognize memory data using Python, streamlining data collection processes, and improving efficiency by 25%.
- Conducted data analysis using Python (Pandas, Linear Regression, NumPy) and SQL to identify trends, influencing experimental design and improving research outcomes by 40%.

VadtalDham Temple

Web Developer

Franklin Park, New Jersey

July 2023 – May 2024

- Engineered a responsive web platform serving 10,000+ monthly users by implementing React.js, Node.js, and modern CSS frameworks, such as Tailwind CSS, resulting in a 40% improvement in mobile user engagement.
- Developed an automated event management system that reduced administrative workload by 50% through integration of Node.js backend services and RESTful APIs for real-time updates.
- Implemented a scalable content management solution that increased content update efficiency by 70% by utilizing modular React components and optimized database queries with SQL.

Outlier A.I

A.I and ML Intern

Oakland, California

May 2024 – Aug 2024

- Partnered with cross-functional teams to design and deploy scalable AI pipelines, integrating advanced data preprocessing techniques and optimized feature engineering using Python and SQL, enhancing model efficiency.
- Developed and fine-tuned machine learning models with TensorFlow and scikit-learn, leveraging grid search for hyperparameter optimization, boosting anomaly detection accuracy by 60%.
- Executed A/B testing and conducted comprehensive performance analysis on deployed models using Python and statistical analysis, improving prediction accuracy by 25%.

PROJECTS

NBA Performance Analytics Platform

Sep 2024 – Nov 2024

- Architected a machine learning pipeline that achieved 85% prediction accuracy for player statistics by implementing ensemble methods combining Random Forest, XGBoost, and Neural Networks.
- Designed a real-time data processing system that analyzed 1000+ player statistics per second using Streamlit and Pandas for efficient data manipulation.
- Created an interactive visualization dashboard that increased user engagement by 70% by implementing Altair charts and Monte Carlo simulations.

Data Structures and Algorithms Visualizer

Sep 2022 – Dec 2022

- Created an interactive algorithm visualization platform that enhanced learning comprehension by 75% through the implementation of D3.js and React components.
- Developed real-time animation controls that improved user interaction by 50% by implementing custom JavaScript animation frameworks.
- Engineered a modular architecture supporting 10+ algorithm types by implementing extensible React components and reusable visualization patterns.

Music Studio – Web DAW

May 2023– Aug 2023

- Developed a web-based digital audio workstation that processed audio in real-time with <10ms latency using Tone.js and Web Audio API.
- Implemented a collaborative feature set that supported simultaneous editing by up to 10 users through WebSocket integration and state management with Zustand.
- Created a responsive multi-track recording system that handled 16+ simultaneous audio tracks by optimizing Next.js performance and implementing efficient audio processing algorithms.

SKILLS

Programming: Java, Python, JavaScript, HTML/CSS, SQL, Node.js, React.js, MATLAB, C++, C, Swift (iOS), Typescript

Frameworks and Libraries: React.js, Node.js, Django, Flask, TensorFlow, Scikit-Learn, Pandas, NumPy, D3.js, Tone.js, Bootstrap, Tailwind CSS

Database & Tools: PostgreSQL, SQLite, MongoDB, Git, GitHub, RESTful APIs, Docker, Jupiter Notebook, VS Code