Vihaan Shetty

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Education

Purdue University West Lafayette, IN

B.S. in Computer Science, B.S. in Data Science | GPA: 3.8/4.0 *Exp. graduation Dec. 2026*

- Concentration: Machine Intelligence
- Relevant Coursework – Data Structures & Algorithms, Analysis of Algorithms, Data Mining & Machine Learning, Systems Programming, Information Systems, Computer Architecture, Applied Regression Analysis, Linear Algebra

Skills

Languages: Python, Java, C/C++, JavaScript, SQL, R, HTML, CSS, TypeScript, Swift
Frameworks / Libraries: TensorFlow, PyTorch, Keras, scikit-learn, XGBoost, PostgreSQL, MySQL, MongoDB, React, Next.js, Node.js, Express, Redux, Flask, PrismaORM, TailwindCSS, Spring Boot, Maven, Spark, Airflow, Hadoop, Pandas, NumPy, Matplotlib, GGPlot2, React-Native, Expo, REST
Tools: Git, Linux, UNIX, Bash, Docker, Tableau, Vercel, Agile, Scrum, Jira, Google Cloud Platform

Experience

Bank of New York (BNY) Jun. 2025 – Present

Software Engineering Intern | Data Masters (Client & Contract) Team *New York City, NY*

- Developing an AI agent leveraging **Retrieval-Augmented Generation (RAG)** for automation of large-scale time series anomaly detection and handling of missing data
- Creating scalable data validation and hydration testing pipelines using **Apache Spark**, **Hadoop DFS**, and **Airflow** to support processing of **over 50 billion** client and account records from **100+** data sources
- Optimizing **Spring Boot**–based **Universal Client Master** application by **eliminating over 75%** of boilerplate code, significantly streamlining development workflows

The Data Mine – Purdue University Jan. 2025 – May 2025

Corporate Partners TA | Management Performance Hub *West Lafayette, IN*

- Managed Data Mine students for research project leveraging **Indiana Criminal Justice Institute (ICJI)** data
- Enforced **Agile** methodologies as **Scrum Master**, **planning sprints** in accordance with the project charter to produce deliverables under tight deadlines and **promoting student-mentor communication**
- **Mentored students** in professional development and technical skills including **data exploration, data visualization**, and **applied machine learning** to support team competency and project output quality

The Data Mine – Purdue University Aug. 2023 – May 2024

Undergraduate Researcher | Pro Football Focus *West Lafayette, IN*

- Engineered **XGBoost** and **Random Forest** regression models using advanced play-by-play charting data to **grade over 200** NFL and NCAAF quarterbacks on the value and difficulty of their throws
- Achieved **80%+ grading accuracy** via **hyperparameter tuning** and domain-specific **feature engineering**
- Designed **Tableau dashboard** providing PFF clients with an **interactive visual experience** showcasing quarterback evaluation grades and predicted NCAA to NFL performance transitions

Projects

Workout Tracker | *Next.js, PostgreSQL* April 2025

- Developed **full-stack** web application attracting **over 100 users** used for workout tracking and intelligent monitoring of muscle progressive overload
- Created **RESTful API** supporting OAuth2.0 user authentication, **multi-user concurrency**, and **optimized database read/write** transactions for security and scalability

UNIX Shell Interpreter | *C, C++, bash, Lex/Yacc* March 2025

- Built **custom UNIX Shell** including scanner/parser with features including piping, file redirection, env. variable expansion, background processes, subshell processes, and integrated SIGINT handling and zombie process cleanup
- Extended functionality with subdirectory wildcarding, path completion, and a line editor with command history

Hackathon Leaderboard (ML@Purdue) | *Next.js, Flask, PostgreSQL* October 2024

- Created full-stack application for ML-powered Hackathon grading system used by **200+ participants**
- Implemented **RBAC** and OAuth2.0 authentication for admin privileges, designed fully-customizable UI
- Developed **Flask** back-end API for database access operations and interaction with the project's ML features