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 – Aug. 2025
Software Engineering Intern | Data Masters (Client & Contract) Team — *New York City, NY*
- Engineered a **multi-agent AI system** leveraging **MCP servers and RAG** to enable dynamic SQL query generation and contextual interpretation of client data, accelerating analytics and decision-making
- Automated hydration testing using **Apache Spark**, **Hadoop DFS**, and **Apache Airflow** for CI/CD data pipeline supporting **over 50 billion** client and account records from **100+** data sources
- Optimized **Spring Boot** application by **eliminating over 75%** of boilerplate code, streamlining development workflows and significantly accelerating delivery of hydration testing features

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 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** and scanner/parser with features including piping, file redirection, environment variable expansion, background and subshell processes, 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