

OM PATEL

267-792-8197 | ompatel9213@gmail.com | linkedin.com/in/ompatel8204 | github.com/ompatel215

Summary

Data Science graduate student and full-stack developer with experience building React/Next.js/Postgres applications; background in Python, ML, and data analysis.

Technical Skills

Languages: Python | Java | C++ | TypeScript | SQL
Frameworks & Libraries: React | Next.js | Node.js | Tailwind CSS
Databases & Backend: PostgreSQL | MySQL | MongoDB | Supabase | Redis
Tools & Platforms: Git | GitHub | Vercel | Excel
Data & Analytics: Pandas | NumPy | scikit-learn | Tableau | Matplotlib | Seaborn

Education

University of Maryland, College Park, MD | M.S. in Data Science Expected Dec 2027

Relevant Coursework: Big Data Systems, Principles of Data Science, Probability and Statistics

Penn State University, Abington, PA | B.S. Computer Science | GPA 3.81 May 2026

Relevant Coursework: Data Structures & Algorithms, Database Design, Linear Algebra

Work Experience

The Workout District, Remote | Freelance Software Developer | Feb 2026 - Present

React, TypeScript, Next.js, Supabase/Postgres, Vercel, Resend

- Designed and built a full-stack facility management platform (**Next.js, React, TypeScript, Supabase/Postgres, Tailwind, Vercel**) that replaced a paid Quickbase deployment as the gym's internal operations tool, now used daily by **20+ owners, staff, and trainers** to serve **3,000+ members**.
- Built a QR-based maintenance reporting system with per-machine unique codes and **Upstash Redis rate limiting** on public endpoints, letting members flag broken equipment in real time and giving staff a dashboard to assess and resolve requests by machine and issue type.
- Automated a daily equipment-status email digest using **Supabase cron and Resend**, giving owners same-morning visibility into open issues without opening the dashboard.
- Built a trainer scheduling module (hour logging, substitute requests, approvals) with one-click **PDF and Excel payroll export**, replacing the owner's manual timesheet tracking.
- Extended the QR system beyond equipment to generate codes for the website, Google reviews, and studio signage, consolidating several ad hoc tools into one platform.

Projects

Lockheed Martin Search and Rescue Robotics Jan 2025 – May 2025

Python, ROS, YOLOv8, TurtleBot3

- Led a 12-person team as Project Manager in a semester-long robotics challenge sponsored by Lockheed Martin, coordinating development of an autonomous search-and-rescue robot focused on intelligent navigation and perception.
- Trained a YOLOv8-Nano object detection model on 800+ labeled images to detect cones and footballs, enabling real-time obstacle and target classification.
- Integrated camera vision, LiDAR, and ROS-based SLAM mapping to support dynamic path planning, obstacle avoidance, and real-time robotic decision-making.

Adaptive Quiz Generator

Jan 2026 – Jun 2026

Python, Streamlit, Ollama, MLX, scikit-learn

- Built a full-stack Streamlit application that parses and chunks uploaded PDFs, then clusters the content into topics using sentence embeddings and K-means to automatically discover a document's structure with no manual tagging.
- Integrated dual local LLM backends (Ollama for cross-platform use, MLX for Apple Silicon) to generate multiple-choice and open-ended quiz questions entirely on-device, removing dependency on cloud APIs and keeping uploaded documents private.
- Designed an adaptive learning engine that tracks per-topic mastery with an exponential moving average, dynamically re-weighting question selection so weaker topics are quizzed more frequently until the user improves.