

Abhiyash Pratap Singh

East Lansing, MI | +1 (517) 204-9389 | abhiyash3101@gmail.com

EDUCATION

Michigan State University - East Lansing, MI

Aug 2021 - Aug 2026

B.S. in Computer Science with Business Cognate

GPA: 3.38 CSE GPA: 3.53

- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Software Design, Database Systems, Web Application Architecture, Computer Organization & Architecture, Artificial Intelligence, Information Management & the Cloud, Intro to Microeconomics, Intro to Corporate Finance, Survey of Accounting Concepts, Intro to Intl. Business Law

Mahatma Hansraj Modern School - Uttar Pradesh, India

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, TypeScript, SQL, HTML/CSS

Frameworks & Libraries: React, Next.js, Vite, Node.js, Flask, FastAPI, Redux, Tailwind CSS, wxWidgets, Chart.js, NumPy, Pandas, scikit-learn

Databases & Infrastructure: PostgreSQL, SQLite, VictoriaMetrics, Prometheus, Docker, Docker Compose, Caddy, Linux

Tools & Practices: Git, GitHub, GitLab CI, JWT/HMAC auth, REST APIs, WebSockets, Doxygen, Agile (Scrum)

PROJECTS

Predictive Maintenance Platform | Next.js, TypeScript, Python, PostgreSQL, Docker, ML

Jan 2026 - Aug 2026

Senior Capstone delivered to AkzoNobel Coatings (Warsaw, Indiana)

- Shipped a production predictive-maintenance system to AkzoNobel's Warsaw, IN coatings plant where downtime costs **\$40K-\$60K per hour, per machine**, flagging failures hours before threshold-based alerts would fire.
- Trained survival-analysis and KNN models for daily failure-risk predictions and built the Next.js operator dashboard with role-based auth, Chart.js, and PDF/Excel report exports.

Movie Recommender System | React, Vite, FastAPI, PostgreSQL, NumPy, Pandas

Apr 2026

- Built a full-stack movie recommender on the MovieLens dataset (610 users, 100K+ ratings) with a **FastAPI + PostgreSQL** backend and a **React 19 / Vite / Tailwind** frontend.
- Implemented **user-based and item-based collaborative filtering** using Pearson/cosine similarity over mean-centered ratings, serving top-K neighbor predictions through a REST API.

EXPERIENCE

Undergraduate Learning Assistant - MSU Department of Computer Science

Fall 2022

- Supported the lead instructor for **CSE 231 (Intro to Programming, Python)** with 200+ students by grading assignments, holding weekly office hours, and running review sessions.
- Diagnosed root causes of student bugs in 1-on-1 sessions and authored short worked examples on recursion, list/dict semantics, and file I/O.

Student Supervisor - MSU Rivertrail Neighborhood Facilities

May 2023 - Present

- Promoted to Student Supervisor after a year as a Building Services Worker; now lead and schedule a crew of student employees during shifts and event turnarounds.
- Train new hires on equipment, safety procedures, and event setup standards, and serve as the on-shift point of contact for facility staff and event coordinators.

ACTIVITIES

- Member, **MSU Artificial Intelligence Club** - Sept 2023 to present
- Member, **Kappa Sigma Fraternity** - Feb 2022 to present (Alumni Relations Chair, Award-Winning Rush Chair)