

Kush Patel

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EDUCATION

University of Michigan - Ann Arbor

Graduation Date: May 2026

BS Computer Science | GPA: 3.8/4.0

Relevant Coursework: Discrete Math, Programming and Intro Data Structures, Data Structures and Algorithms, Computer Organization, Computational Theory, Web Systems, Artificial Intelligence, Machine Learning, UI Development, Software Engineering

EXPERIENCE

Capital One

McLean, VA

Software Engineering Intern

May. 2025 – Aug. 2025

- Developed a high-throughput customer lookup service to support the Capital One–Discover integration, enabling real-time access to unified customer profiles used to streamline cross-bank authentication and support seamless onboarding for millions of users.
- Built a decisioning engine to assess campaign relevance from customer behavior, reducing low-impact ads and boosting targeted engagement.

Ford Motor Company

Dearborn, MI

Software Engineering Intern

May. 2024 – Aug. 2024

- Engineered and deployed a microservice to monitor software update rollouts across vehicle models and global regions, integrating it with a dashboard that visualized deployment status for over 50,000 test vehicles as part of the Vehicle Software Team.
- Built backend features for grouping updates by region and vehicle model, enabling targeted queries and simplifying staged rollout tracking.
- Helped engineer a predictive model that flagged high-risk updates using historical failure patterns and rollout metadata, enabling early intervention during staged rollouts.

Ford Motor Company

Dearborn, MI

Software Engineering Intern

May. 2023 – Aug. 2023

- Engineered scalable data pipelines using Google Cloud Platform (GCP) to migrate over 1.5TB of structured supply chain data from Ford's internal systems to E2open, enabling real-time integration and analytics for the Supply Chain Digitization team.
- Developed service features to process incoming support tickets, automatically analyzing issue metadata and routing them to the appropriate team for resolution, reducing manual triage time.

Ford Motor Company

Dearborn, MI

Software Engineering Intern

May. 2022 – Aug. 2022

- Created JavaScript features for internal Agile tools, streamlining planning workflows for the Plan and Integrate team.
- Improved deployment reliability by identifying bottlenecks in Jenkins pipelines and proposing optimizations, reducing build times by 20%.
- Contributed to large-scale codebase refactoring efforts by modularizing repositories, writing custom Git hooks, and integrating automation scripts to streamline development workflows.

PROJECTS

SparkNotes AI

- Developed a cross-platform desktop and web application that automatically converts educational videos into polished, searchable notes, empowering users to learn and review content more efficiently while maintaining 0 costs to users.
- Built a privacy-first workflow that processes videos locally, extracts key information using advanced AI summarization, and syncs results to a personalized dashboard for seamless access across devices.
- Designed a modern, intuitive user experience with real-time job tracking, instant downloads, and key features like self-generating cheat sheets helping support hundreds of users and large-scale video processing.

KP-Planning

- Built KP-Planning, an intelligent trip planning service with an easy-to-use UI for handicapped individuals, and leveraged advanced AI algorithms to ensure the itinerary matches your interests.
- Curates the perfect vacation by dynamically adjusting itineraries based on group size, budget, current events, weather conditions, and importantly ensuring disability accommodations are met for a personalized and adaptable travel experience.
- Helped plan over 400 trips across various countries, storing trips in a MongoDB database to monitor preferences and continually enhance recommendation capabilities.

SKILLS

- **Languages:** C, C++, Python, SQL, HTML, CSS, Java, JavaScript, Typescript, Mathematica, MATLAB, PowerShell
- **Frameworks:** Flask, QT Framework, Spring Boot, React, Next.js, Node.js, Express, Angular, Firebase, Electron
- **Tools/Technologies:** PyCharm, Eclipse, Jupyter Notebook, VS Code, Git, Jenkins, Agile (Scrum), Rally, GCP, Power Automate, Grafana, Qlik Sense, Alteryx, SQL Dashboard, Postman, MongoDB, Tesseract