Khushi Patel
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Skills

Programming & Tools: React.js, HTML/CSS, JS, jQuery, Node.js, Express.js Python, SQL, tRPC, PowerBI, Tableau, C++, C.
NLP & Generative AI: GPT-4, BERT, Prompt Engineering.
Cloud & Data Platforms: AWS (Sagemaker, Lambda), Google Cloud.
Data Science Libraries: TensorFlow, PyTorch, Keras, Matplotlib, NumPy, Pandas, Scikit Learn, OpenCV, Seaborn.

Experience

Software developer | Sketch Recognition Lab, Texas A&M, College Station, TX Apr 2025 – Present
Technical Stack: React, Node.js, TypeScript, Mantine, MariaDB, TypeORM, tRPC, Express, CSS

- Develop and maintain two **educational websites with interactive games** to communicate research to students using full-stack features supporting game logic, user tracking, and dynamic content delivery for student engagement.
- Implement classroom-based **progress tracking** tied to user activity and performance, along with modular yet **reusable UI components** and **backend APIs**, all within a scalable monorepo architecture supporting both websites.
- Designed a custom user-role system using MariaDB and TypeORM for access control and classroom segmentation.

Research assistant | Texas A&M, College Station, TX Jan 2025 – Apr 2025
Technical Stack: Python, SQL, Pandas, NumPy, Matplotlib, Seaborn, Data Visualization & Merging

- Analyzed and processed **over 1M+** entries across **5-6 interconnected databases** related to U.S. lobbying activities, ensuring data accuracy and integrity by building **Python scripts** to automate data cleaning and analysis tasks.
- Created **visualizations** to represent lobbying trends, expenses, and client relationships over time.
- Resolved schema mismatches and missing value inconsistencies across quarterly lobbying datasets.

Software developer| Texas A&M, College Station, TX Oct 2024 – Dec 2024
Technical Stack: JavaScript, Typescript, CSS3, HTML5, Parcel, Git

- Created interactive algorithm visualization projects using a **custom JavaScript framework**, enhancing user understanding of complex algorithms which reduced code complexity by **80%** by visualizing based on user input.
- Led **project testing and optimization** efforts, ensuring cross-browser compatibility and usability through collaborative problem-solving while conducting regular code reviews to improve implementation strategies.
- Integrated input throttling and rendering optimizations to address performance bottlenecks in visualizations.

Projects

Insider Trading detection Jan 2025 – Apr 2025

- Engineered a **Deep Learning Model**, achieving a 95% accuracy in detecting prize fluctuations for risk assessment.
- Generated **anomaly detection graphs** to flag potential insider trades with **90% precision** based on criticality levels and leveraged Langchain to fetch data from a knowledge graph, elevating fidelity of **insights by 40%**.

Virtual Pointer Using Mouse-less Navigation Nov 2024 – Dec 2024

- Developed a virtual mouse and keyboard system using **OpenCV** and CNNs to enable touchless interaction.
- Utilized **background subtraction, skin color detection, and contour analysis** for gesture interpretation.

Student Portal Website Jan 2024 – May 2024

- Developed a comprehensive student portal for **40,000+** students to access academic information and functionalities, while improving code reliability by **30%** through proper documentation to ensure modularity.
- Engineered **client-side functionality**, including interactivity, data fetching and scaling up performance by **60%** and collaborated cross-functionally with back-end developers, designers, and QA testers to ensure timely delivery.

Education

Texas A&M University, College Station, TX Aug 2024 - May 2026
Master of Science in Computer Science ***GPA: 3.8***

SRM Institute of Science and Technology, Chennai, India Sept 2020 - Jun 2024
Bachelor of Technology in Computer Science ***GPA: 4.0***