Smit Mahesh Panchal

smitpanchal1661@gmail.com | +1 (480) 853-9400 | LinkedIn | Github | Tempe, AZ

EDUCATION

Masters of Science in Software Engineering *(Expected Aug 2026)* **Arizona State University**, *Arizona, USA*
Current GPA – 3.78 / 4.00

Bachelor of Engineering in Computer Engineering *with* **Honors in AI & ML** **University Of Mumbai**, *Maharashtra, India*
Overall GPA – 3.58 / 4.00

PROJECTS

Web-Based Software Metrics Calculator (SER 516) | *Java, Spring Boot, Docker, Vue.js, MongoDB, GitHub Actions*

- Developed a **modular full-stack web app** to compute software metrics - efferent/afferent coupling, defect density, and instability, using **Java**-based **Spring Boot microservices** with **RESTful APIs** and **Docker** containers.
- Engineered backend architecture with standardized service interfaces, **GitHub** integration, and use of **Gang of Four** design patterns like Adapter to enable **scalable** and **consistent** integration across services.
- Built a **Vue.js** frontend with real-time visualizations and historical trend tracking, replacing a vanilla JS interface for improved user experience and maintainability.
- Set up **CI/CD** pipelines using **GitHub Actions** for each backend service, ensuring consistent builds and deployments; collaborated in a **24**-member Agile team to **scale** to **16** services and deliver **118** story points in a final Kanban sprint

Carpool: Ride-Sharing Web Platform | *Bootstrap, Javascript, Python, Django, SQL*

- Constructed a responsive carpooling website using HTML, CSS, JavaScript, and **Bootstrap** for a user-friendly frontend, while employing **Python** and **Django** for backend functionality to increase ride-sharing efficiency.
- Implemented a SQL database for secure user account management and effective handling of travel data.
- Created functionality for users to track posted and accepted carpool requests. Iteratively gathered feedback from **30+** users over **3** testing cycles, improving functionality efficiency and boosting user experience.

Recyclemate: AI-Powered Waste Classification | *CNN, Python, Django, SQLite*

- Engineered a **CNN**-based AI model with **85%** accuracy to classify recyclable and non-recyclable waste.
- Integrated the model into a **Django**-based web application, enabling real-time predictions through an intuitive user interface.
- Leveraged **TensorFlow, OpenCV,** and **Keras** for efficient image processing and accurate waste classification.
- Published research in **IEEE** (August 2023), showcasing an AI-powered approach to sustainable waste management.
- Utilized **SQLite** for efficient data storage and Django's template rendering system to dynamically display classification results.

NLP-Powered Short Video Enrichment System | *React, Flask, Firebase, NLP*

- Engineered an **NLP**-based recommendation system that delivered personalized short video suggestions using **CountVectorizer** and **Cosine Similarity**.
- Processed and analyzed **2,000+** videos, improving recommendation relevance by leveraging hashtags, descriptions, and user interactions.
- Built a **Flask** backend with **Firebase Firestore**, ensuring efficient data storage and real-time retrieval for seamless user experience.
- Published a research paper in IEEE (Feb 2024) showcasing the system's effectiveness in enhancing video engagement through NLP-driven recommendations.

TECHNICAL SKILLS

Programming & Scripting: Python, Java, JavaScript, TypeScript, C/C++, SQL, OpenSSL
Frameworks & Technologies: Spring Boot, Django, Flask, React, Vue.js Node.js, Express.js, Snyk, SonarQube, Cppcheck
Databases & Cloud: MySQL, PostgreSQL, SQLite, MongoDB, Firebase, AWS (S3, Lambda, EC2)
Tools & Development: Git, Docker, Kubernetes, GitHub Actions, Gradle, Maven, CI/CD, Agile/Scrum, A/B Testing, Valgrind

EXTRACURRICULAR EXPERIENCE

Smart India Hackathon 2023 Software Edition Winner (PS - SIH1453), *Delhi - India* ***Dec 2023***

- Conducted security analysis on OpenVPN's crypto library and its integration with **OpenSSL**, using **Snyk, Cppcheck, SonarQube, Valgrind,** and **AddressSanitizer** to identify vulnerabilities.
- Discovered **60+** memory leaks and API misuse in OpenSSL interactions, impacting security and stability.
- Worked in a team of **5** to analyze issues and present findings to company directors, demonstrating teamwork, problem-solving, and **technical communication** skills.

Customer Service Specialist, *ASU Experience Center - Tempe, AZ, USA* ***Apr 2025 - Present***

- Provided technical support for **system access**, **authentication**, and platform-related issues across ASU's digital services using **Salesforce CRM**, MyASU, and internal tools, handled an average of **60–80+** support queries per shift.
- Partnered with engineering and **QA teams** to test and refine an **AI-powered chatbot,** contributing detailed **usability feedback** and designing **test scenarios** to improve automated responses and escalation handling.
- Documented and optimized **incident workflows** in Salesforce, enhancing support team efficiency and improving end-user experience through faster **ticket resolution** and clearer escalation paths.