ANANYA PANDEY

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TECHNICAL SKILLS

Languages & Databases: Java, JavaScript, Python, MongoDB, and SQL
Technologies: Amazon Web Services (AWS), Android, Node.js, Spring Boot, Docker, Linux, Kubernetes, REST API, GraphQL, Selenium, JUnit, Jest, Apache Kafka, Amazon Simple Queue Service (SQS), and Electron.js
Tools: Git/GitHub/GitLab, Jenkins CI/CD, Spinnaker CI/CD, Jira, Datadog, Splunk, and Apache JMeter

PROFESSIONAL EXPERIENCE & INTERNSHIPS

Software Development Engineer II at Expedia Group *May 2022 - Nov 2023*
Project: A SaaS application to record and upload screens *(1 yr. 6 mos.)*

- Built a screen recording utility for Windows that captured user screens and uploaded them to AWS S3.
- Enabled the backend service to handle concurrent video uploads by up to 1000 users by designing API load tests in Apache JMeter and fine-tuning running server count, scaling policy, and CPU/memory limits.
- Designed and implemented real-time mechanisms using Apache Kafka and Amazon SQS to track crucial metrics and extract useful debugging information about application downtime, crashes, and missing recordings.
- Tested the performance of frontend and backend under low-bandwidth conditions to simulate the constraints of our target users and optimized the upload algorithm and server timeouts, which reduced upload failures.
- Ensured production-readiness of the application by increasing the total code coverage to 85% using Mockito and Jest.

Software Development Engineer I/II at Zebra Technologies *Jul 2018 - Apr 2022*
Project: Wi-Fi stack customization for Zebra's enterprise-grade Android devices *(3 yrs. 9 mos.)*

- Developed and integrated proprietary inter-network and inter-subnet roaming algorithms into Android Open Source Project's framework and Qualcomm Wi-Fi drivers, significantly improving connection stability in complex enterprise environments like warehouses, airports, retail, and healthcare facilities.
- Calibrated the intra-network roaming behavior on a Synaptics Wi-Fi chipset, ensuring a flawless and uninterrupted switching experience between Wi-Fi access points.
- Redesigned the user interface for Zebra's Additional Wi-Fi Settings Android application to ensure a consistent experience across several form factors, including tablets and smartphones with screen sizes from 3" to 4.7".

Software Development Intern at Zebra Technologies *Jan 2018 - Jun 2018*
Project: Location tracking in indoor environments *(6 mos.)*

- Created a floor map using a TurtleBot and combined location data with real-time Wi-Fi access points and signal strength readings within the mapped environment.
- Trained a TensorFlow model to predict a device's location using ambient Wi-Fi signals, which was displayed on an Android application for real-time location tracking.

ACADEMIC PROJECTS

Student Developer at LupLab (under Dr. Joël Porquet-Lupine) University of California, Davis *Sep 2024 - Mar 2025*
Project: An offline-first interactive textbook for programming (luplab.gitlab.io/lupbook/home) *(6 mos.)*

- Improved user retention and reduced student complaints in a browser-based interactive programming textbook by preserving CodeMirror (code editor) progress across sessions using IndexedDB.
- Automated the release mechanism for project dependencies, minimizing setup effort and reducing onboarding time for new users.
- Added theme support to improve personalization and accessibility throughout the textbook.

Graduate Student at University of California, Davis *Jan 2025 - Mar 2025*
Project: A vulnerability aggregator for project dependencies (github.com/ananya0996/vultra) *(3 mos.)*

- Built a Python-based tool that analyzes Maven and npm project dependencies by querying vulnerability databases like GHSA (via GraphQL) and NVD (via REST) to report security issues with their type, severity, and patched versions.
- Created a testing framework to scrape pom.xml and package.json files from top-starred GitHub repos and validate Vultra's real-world effectiveness.

Graduate Student at University of California, Davis *Jan 2025 - Mar 2025*
Project: A web scraper to analyze footfall in national parks (github.com/ananya0996/national-park-analysis) *(3 mos.)*

- Scraped data from sources like the U.S. National Park Service (nps.gov), Berkeley TIMS, and Weather Underground using Python, BeautifulSoup, and Selenium.
- Integrated the collected data to enable correlation analysis between footfall in California's national parks and factors such as rare species sightings, weather patterns, and seasonality.

EDUCATION

Master of Science in Computer Science, University of California, Davis *Sep 2024 - Present*
GPA: 3.8 / 4.0 *(Expected Graduation: June 2026)*

Bachelor of Technology in Computer Science and Engineering, PES University, Bengaluru, India *Aug 2014 - Aug 2018*
GPA: 8.21 / 10 (or 3.2 / 4.0) *(4 yrs.)*