Tanzeel Rahman

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EDUCATION

Bachelor's Degree in **Computer Science** with **Honors** — **University of South Florida** — May **2027** — GPA: 3.75/4

PROFESSIONAL EXPERIENCE

Mobile Application Engineer (Unity / Android) — **University of South Florida** — Jan 2025 – Present

Technologies: Unity, C#, Android SDK, GPS Sensor APIs, OpenStreetMap API, Git

- Developed and shipped production-ready features for a Unity-based Android application deployed in real-world driving studies
- Engineered GPS, API, and state-management logic in C#, resolving edge cases identified across 20+ lab and on-road test cycles
- Built modular services for GPS polling, speed computation, and API parsing, improving maintainability and system reliability
- Implemented async workflows and structured error handling to prevent crashes and ensure consistent state transitions

Software Engineer Intern (Data & ML Systems) — **Moffitt Cancer Center** — May 2025- Present

Technologies: Python, Pandas, NumPy, Scikit-learn, Git, Jupyter, Matplotlib

- Engineered modular data processing pipelines in Python (Pandas, NumPy) to support large-scale genomic workflows, improving reliability and maintainability across downstream systems
- Built reusable preprocessing and validation utilities for 10,000+ records, enforcing schema consistency and reducing integration failures across pipeline stages
- Automated end-to-end pipeline execution with logging, checkpointing, and error handling, enabling reproducible run cycles
- Optimized batch processing using profiling and vectorized operations, eliminating bottlenecks and improving execution speed

Data Engineering Research Assistant — **Purdue University** — Jan 2025 – Dec 2025

Technologies: Unity, C#, Android SDK, GPS Sensor APIs, OpenStreetMap API, Git

- Built Python and SQL pipelines to clean, join, and analyze multi-institution engineering student datasets at scale
- Generated analytical summaries and dashboards (Tableau) to support evaluation of engagement, and AI usage trends
- Analyzed survey and interview data on student interactions with AI tools (ChatGPT, Gemini), informing research insights

Backend Software Engineer Intern — **TCL – Telecommunications Ltd.** — May 2024 – Aug 2024

Technologies: React.js, Node.js, Express.js, PostgreSQL, SQL, Docker, Git, GitHub Actions, Vercel

- Built and maintained Node.js and Express.js backend services supporting internal analytics dashboards for 500+ employees
- Designed RESTful APIs and PostgreSQL schemas to enable reliable data ingestion and real-time monitoring workflows
- Containerized services with Docker and implemented CI/CD pipelines using GitHub Actions to accelerate deployments
- Optimized SQL queries and refactored service logic, reducing endpoint latency and improving overall system responsiveness

PROJECTS

ResearchLink | Next.js (TypeScript), Tailwind CSS, FastAPI, SQLAlchemy, SQLite, BeautifulSoup, Uvicorn

- Developed a full-stack platform aggregating 40+ faculty research opportunities into a searchable, student-facing interface
- Built FastAPI backend services with SQLAlchemy models to support structured data ingestion, filtering, and web scraping
- Implemented dynamic frontend features (search, filters, tags, profiles) using Next.js with server-side rendering
- Optimized backend queries and schema design, achieving sub-200ms API response times under typical usage

Driving Behavior Research App | Unity (C#), GPS APIs, Overpass API, Android SDK, JSON, Git

- Architected a Unity-based Android application computing real-time vehicle speed from GPS data and retrieving posted road-speed limits via Overpass API
- Implemented modular services for GPS polling, speed calculation, API parsing, and violation logic using OOP patterns
- Built a data-logging subsystem to record speed, GPS accuracy, and speed-limit mismatches for downstream behavioral analysis
- Engineered logic to mute/unmute Android system volume (via AudioManager plugin) when users exceeded posted speed limits

ScholarScan | Python, arXiv API, Scikit-learn, Transformers, OpenAI API, SQLite, Pandas

- Developed an automation tool ingesting 1,000+ research papers via the arXiv API using modular preprocessing pipelines
- Built structured data workflows with SQLite-backed caching to improve fetch stability and reduce repeated request time
- Implemented a hybrid summarization engine combining TF-IDF, embeddings, and GPT-based inference for topic extraction

TECHNICAL SKILLS

- **Programming Languages**: C/C++, C#, Python, Java, JavaScript (ES6+), SQL, HTML, CSS
- **Frameworks & Libraries**: React.js, Node.js, Express.js, FastAPI, Springboot
- **Databases & Infrastructure**: PostgreSQL, Redis, Oracle SQL, Docker, Git, GitHub Actions, AWS
- **Software Engineering:** REST APIs, Microservices, CI/CD, Unit Testing, Debugging, Agile/Scrum