

SWETHAA SHANMUGAM RAMESH

Passionate Software Engineer experienced across all phases of the Software Development Life Cycle (SDLC). Skilled in building distributed, scalable and secure systems, writing clean, maintainable code, and resolving complex bugs efficiently. Committed to fostering team growth by providing thoughtful feedback, uplifting peers, and contributing to a collaborative, high-performance engineering culture.

☎ 571-244-6358 ✉ swethaashanmur23@vt.edu [in linkedin.com/in/swethaa-ramesh](https://www.linkedin.com/in/swethaa-ramesh) leetcode.com/u/swethaasr2002

Education

Virginia Tech

Aug 2023 – Dec 2024

Master's in Computer Science- Software Development and Artificial Intelligence Specialization, GPA: 3.76/4

Anna University

Aug 2019 – Apr 2023

Bachelor's in Computer Science, GPA: 3.98/4

Technical Skills

Languages: C++, Java, JavaScript, Python, C, HTML, CSS, SQL

Libraries: Pandas, NumPy, Scikit-Learn, TensorFlow, PyTorch, React, Vue, Matplotlib, Plotly, Seaborn, Keras, NLTK

Tools, Frameworks and Others: Azure, AWS, Docker, Node.js, VectorDBs, RAG, REST API, Jira, CI/CD, Selenium, JUnit, PostgreSQL, Test Automation, Debugging, Git, Problem Solving, Communication Skills, Analytical Thinking, Agile Development, Collaborative Mindset

Experience

Emotive Computing LLC

May 2024 – Dec 2024

Software Engineer Co-Op

- Designed and developed a high scale RAG pipeline leveraging FAISS and fine-tuned DistilBERT to retrieve personalized mood-regulating content, enhancing My Emotions app relevance by 35% for improved customer engagement.
- Engineered a scalable, secure backend on AWS using FastAPI; developed and integrated real-time inference features for context-aware recommendations, reducing latency by 30% and boosting engagement by 67% while meeting key performance goals.

Vodafone

Sept 2022 – Jan 2023

ML Engineer Intern

- Built scalable, low-maintenance data pipelines using SQL, Spark, and Apache Airflow to ingest and process 1.4 TB of user complaint data, ensuring high availability and unlocking high business value by reducing manual analytics workload by 70% and enabling faster, data-driven decisions.
- Engineered a production-grade NLP framework using Python and LDA to extract key service themes from user feedback, improving operational efficiency by 45% and reducing customer complaints through data-driven optimization.

KKM Soft Private Limited

Apr 2022 – Aug 2022

Data Scientist Intern

- Defined product requirements, scoped technical efforts, and led usability testing with 57+ users per cycle to inform design decisions; drove iterative improvements that reduced bounce rates by 18% and enhanced overall user satisfaction.
- Implemented a GRU-based sentiment analysis model in TensorFlow to analyze user reviews, achieving 20% uplift in key metrics validated by A/B testing; prioritized customer satisfaction by integrating insights into product features aligned with business goals.

KrypC Technologies

Jun 2021 – Sep 2021

Software Engineer Intern

- Collaborated with the development team to enhance KrypCore platform's smart contract functionality by refactoring key components for maintainability, implementing 3 optimized templates, reducing average deployment time by 28%, improving platform efficiency and integrated a RESTful API integration layer with 5 endpoints to enable seamless partner integration.
- Conducted code reviews, wrote 30+ unit tests achieving 70% coverage, and performed integration testing on new platform features, identifying and resolving 10+ bugs to ensure a stable release and positive user feedback.

Projects

Airline Traffic Intelligence and Optimization System | LLM, React, Node.js, PostgreSQL

May 2024

- Developed a full-stack Airline Traffic Visualization System using React and PostgreSQL, integrating LLaMA-2 (RAG) to enable advanced search that improved traffic analysis efficiency by 48% and provided real-time insights via interactive dashboards.
- Engineered a high-performance data processing system for reliable real-time data integration with RAG, enhancing anomaly detection and reducing operational delays by 15% through engineering excellence.

Blood Bank Management System | React, Spring Boot, Azure

Dec 2023

- Engineered a secure, geo-redundant and highly available Java Blood Bank application on Azure (App Service/SQL DB), implementing robust data integrity checks and automating key processes that cut manual effort by 40% and improved donation management efficiency.
- Developed a React-based frontend user interaction system and implemented testable real-time monitoring features, significantly enhancing system reliability and enabling immediate response to 90% of critical blood supply shortages, thereby enhancing overall operational efficiency by 25%.

NIRF Rank Transformer | Python, Deep Learning

Apr 2023

- Extracted comprehensive NIRF datasets on 500+ colleges and ranking parameters through advanced web scraping, enabling detailed analysis of critical factors like faculty-student ratio, and placement statistics influencing rankings.
- Delivered recommendations to colleges based on MLP correlation analysis and clustering, leveraging insights from similar colleges and popularity trends, resulting in a 17% ranking improvement through informed data analysis.

Relevant Coursework

Data Structures & Algorithms | Object Oriented Programming | Information Security | Compiler Design | Cloud Computing