ASWATH SENTHILKUMAR

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EDUCATION

Arizona State University — Aug. 2023 − May. 2025
Master of Science in Computer Science — *Tempe, AZ*
Relevant Coursework: *Multimedia and Web Databases, Data Mining, Advanced Operating Systems*

Rajalakshmi Engineering College — Aug. 2019 − May. 2023
Bachelor of Engineering in Computer Science and Engineering — *Chennai, India*

SKILLS

Languages: Python, Java, JavaScript, Typescript, C/C++, HTML, CSS, SQL, Bash
Technologies/Frameworks: Pandas, Numpy, Scikit-learn, PyTorch, Tensorflow, ReactJS, TailwindCSS, NextJS, Node.js, Redux, D3.js, REST Services, NPM, Webpack, CLI tools, AWS (Lambda, S3, EC2, API Gateway), Docker, Linux, CI/CD (GitHub Actions, Jenkins), MongoDB, Django, PostgreSQL, MySQL (NoSQL), Jupyter, cloud technologies
Core Competencies: Fullstack Development, Machine Learning

INDUSTRIAL EXPERIENCE

Software Engineer - Vian Analytics — Jun. 2025 − Present
AI-Powered Drug Repurposing Platform — *Remote, USA*
- Developed **Graph Neural Network (GNN)** and **ensemble learning models** to predict drug–cancer compatibility, achieving over **85% accuracy** and exposing predictions via **RESTful/GraphQL APIs** for real-time access.
- Engineered a scalable microservices architecture with integrated **ML pipelines** supporting feature engineering, **SHAP-based explainability**, and biomedical literature integration for evidence-backed predictions.
- Built an interactive analytics dashboard using **Next.js** and **React**, enabling users to explore drug–cancer relationships, visualize biological networks, and interpret AI-generated confidence scores.
- Deployed containerized microservices using **Docker** and **cloud technologies** with automated **CI/CD pipelines**, ensuring high service availability, robust error handling, and **sub-2s API response times** under production workloads.

Fullstack Developer Intern - CoCreator-AI — Oct. 2024 − Jan. 2025
Startup - B2C SaaS Platform — *Remote, USA*
- Built user-facing modules with **Gemini LLM** to analyze user personality traits and generate tailored business mentoring content, increasing engagement by 30%.
- Developed **Django** backend services with **LangGraph** by **LangChain**, hosting agentic AI workflows on **Google Cloud Run** with **Cloud Storage** and **Pub/Sub** for scalable, event-driven processing.
- Developed an AI-powered dashboard that transformed model outputs into actionable workflows, reducing planning time by 67% for 1,200+ users.
- Rebuilt the chat interface in **Next.js** using Flexbox and virtualization, eliminating UI lag and improving real-time responsiveness.

Fullstack Software Engineer Intern - Flow AI — May. 2024 − Aug. 2024
Startup - B2B Sales Integration — *Remote, USA*
- Developed full-stack features for an AI-driven sales platform using **React**, **Node.js**, and **Python**, collaborating cross-functionally for end-to-end feature delivery.
- Integrated **Salesforce** and **HubSpot APIs** to optimize data synchronization and frontend responsiveness, reducing backend processing time by 33%.
- Improved developer onboarding efficiency by 40% through streamlined code reviews, documentation, and automated testing pipelines.

Software Engineer - Thangamalar & Co — Aug. 2022 − Jul. 2023
B2B E-commerce — *Chennai, India*
- Developed a self-serve B2B e-commerce platform that replaced manual phone orders, reducing order time from 15 to 2 minutes and tripling daily order handling capacity.
- Built a scalable **React + TypeScript** SPA with **Redux** and **Webpack** optimization, adhering to **WCAG** accessibility standards and reducing page load times to 0.5s with 40% lower bandwidth usage.
- Designed **Spring Boot REST APIs** with **JWT/RBAC**, **Redis** caching, and **PostgreSQL** indexing, improving API latency from 450 ms to 35 ms while maintaining production-grade reliability.
- Containerized backend services with **Docker** and automated **CI/CD pipelines** using GitHub Actions for consistent, zero-downtime deployments.
- Integrated **Razorpay** for secure transactions and automated GST-compliant invoicing, cutting manual accounting work by 90%.

PROJECTS

Twilio Medication Reminder System — Jan. 2025 − Apr. 2025
Automated medication reminder system with real-time transcription and call handling — *USA*
- Developed a full-stack medication compliance system using **Node.js**, **Express**, and **Twilio APIs** to automate patient reminder calls with real-time audio streaming and live transcription via **Google Cloud Speech-to-Text**.
- Implemented dynamic call flow management with **TwiML**, human vs. machine detection, voicemail handling, and SMS fallback, ensuring complete patient outreach and reliable 24/7 operation.
- Designed **MongoDB** schemas with **Mongoose** to store call logs, transcripts, and recording data, and implemented **unit testing with Jest** to validate API reliability and error handling.