

TEJAS C. MARIMUTHU

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PROFESSIONAL SUMMARY

TS/SCI-cleared Software Engineer passionate about building meaningful products from the ground up. Experienced in designing scalable backend systems and thriving in ambiguous, fast-paced environments. Seeking to apply my skills at mission-driven startups solving real-world problems.

WORK EXPERIENCE

CACI International (Client: U.S. Space Force)

Software Engineer

Sterling, VA
Jun 2021 – Present

- Led end-to-end modernization of a mission-critical application, upgrading from RHEL 7 to RHEL 8, re-architecting the system, and migrating to a modern Python, Angular, and Electron stack to improve performance, usability, and deployment.
- Built and scaled real-time backend systems in Java using Spring Boot, architecting a thread-safe Elasticsearch and Postgres integration layer with reusable client and index configurations, generic object serialization, and Kafka-based event publishing, improving CRUD performance by 30%.
- Designed and deployed containerized microservice infrastructure using Docker Compose and Kafka with custom topics to support reliable inter-service communication.
- Extended role beyond traditional software engineering to include technical architecture and systems engineering tasks, crucial in a project's initial phase lacking formal role definitions, which led to a 20% improvement in project delivery timelines.
- Collaborated directly with cross-functional and client teams to scope, prioritize, and deliver features under tight timelines, supporting successful deployments in a high-stakes, mission-driven environment.
- Applied Agile methodologies throughout the project lifecycle, actively engaging in daily scrums, sprint planning, story creation, and retrospectives to enhance team efficiency and project deliverables.

Penn State Nittany AI Alliance

Front-End Developer

University Park, PA
Jan 2022 – May 2022

- Collaborated in a 3-person agile team to design an AI-powered system aiming to autonomously process more than a hundred thousand transcripts each year.
- Implemented UI components, table structures & search boxes, using Java, JavaScript, HTML, and CSS.

iSenpai LLC

Software Developer

Manassas, VA
Jun 2020 – Aug 2021

- Developed a 508-Compliance Website Scoring and Search tool application to assist website owners in testing accessibility for users with disabilities.
- Designed Python-based backend utilities that performed automated accessibility rule validation, transforming raw HTML into structured JSON objects and powering the scoring engine used by the React frontend.
- Contributed to both frontend and backend efforts, applying data structures, DOM manipulation, and JSON parsing techniques using HTML, CSS, and JavaScript in a ReactJS framework.

PROJECTS & ENTREPRENEURSHIP

Storage Server

Seoul, Korea

- Created a client to server architecture on a local system with cookie management using Python and HTML.
- Built a file storage web app with user authentication, allowing file upload, download, and deletion via a persistent HTTP connection.

Mar 2022 – Jun 2022

CRUD File System

University Park, PA

- Designed a file system using C language in UNIX involving memory manipulation and connecting the hardware to user commands. Implemented mount, unmount, read, write, seek, cache, and network functions.
- Wrote ~1000 lines of code and gained experience in dynamic memory allocation, memory hierarchy, pointer arithmetic, socket programming, and GDB debugging.

Jan 2021 – May 2021

5th Sense Startup

University Park, PA

Penn State Nittany AI Challenge 2021 | Co-Founder, Full Stack Developer, Semi-Finalist

Dec 2020 – July 2021

- Founded 5th Sense alongside 2 developers to support individuals with hearing impairments through sound transcription AI technology.
- Integrated Microsoft Azure AI, for real-time speech identification, enrollment, and transcription, into a React-Native Expo mobile application using Python and JavaScript, to provide an interface that allows users to visually interpret the sounds of the world.
- Advanced to the semi-finals as one of the TOP 20 teams, securing a \$500 cash prize.

LEADERSHIP & IMPACT

Software Engineer at CACI International

Sterling, VA
Jun 2023 – Present

- Led 20+ product demos with stakeholders, earning consistent praise for clear communication and solutions aligned to client needs.
- Facilitated inter-company technical meetings and established clear communication channels between in-house architects, subcontractors, and remote developers to resolve complex technical issues and ensure cohesive team execution.
- Initiated and maintained a versioning system and documentation for a package repository which improved project workflow and data service reliability in handling CRUD operations to database.
- Received multiple bonuses for outstanding dedication and impact, contributing to a 35% increase in team productivity and maintaining rigorous work schedules to meet project deadlines.
- Played a pivotal role in coordinating technical efforts across five distinct teams in a complex agile environment as a subcontractor to Raytheon, contributing to the team's success in maintaining a 100% customer satisfaction score throughout the project.
- Onboarded and trained 12+ engineers and cross-functional stakeholders.
- Created detailed documentation and standard operating procedures which reduced the onboarding time by 50% and streamlined project initiation processes.

SECURITY CLEARANCE

- TS/SCI

CERTIFICATIONS, SKILLS, & INTERESTS

Languages: Python, Java, JavaScript, TypeScript, C, Golang, Swift, SQL

Frameworks: React, Node.js, Spring Boot, Flask, Express, AngularJS

Testing: Cypress, Unit Testing, Automation Testing

Cloud & DevOps: AWS (Cloud Practitioner Certified), Docker, Kafka, GitLab, CI/CD, Traefik, Vercel

Databases: MySQL, PostgreSQL, MongoDB, DynamoDB, SQLite, Elasticsearch, Supabase

AI Tools: N8N, Ollama, OpenAI Agents, Retell AI, Lovable

LLMs: OpenAI GPT models, Llama, Claude, Gemini

Other: SonarQube, Platform One, Linux, Verilog, PyTorch, TensorFlow, ETL

Interests: Formula 1, Travel, Hiking, Startup Culture, Mindfulness, Volleyball, Tennis, Food Tours

EDUCATION

The Pennsylvania State University

College of Engineering | B.S. in Computer Science

University Park, PA

Class of May 2023

Sungkyunkwan University

College of Engineering | Exchange Student

Suwon, Korea

Spring 2022

Relative Coursework: Programming & Computation I & II, Object Oriented Programming w/ Web-Based Applications, Data Structures & Algorithms, Introduction to C, Computer Networks, Data Mining, Introduction to Artificial Intelligence, Operating Systems, Database Management, Theory of Computation