

Sanjith Shanmugavel

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EDUCATION

University of California San Diego

La Jolla, CA

B.S. in Math-Computer Science, Minor in Data Science, GPA: 3.6

Expected 2027

Courses: Supervised/Unsupervised Machine Learning, Adv. Data Structures, Linear Algebra

6x Hackathon Winner: *1st Hardware+IoT @ DataHacks, 1st Qualcomm Track @ DiamondHacks, 1st Overall @ Eigen Labs Hackathon, 2nd Overall @ United Nations Hackathon, 2nd @ 2025 BCI Competition, 4th @ Amgen Hackathon*

EXPERIENCE

Software Engineering Intern

Mar. 2026 – Present

Eigen Labs – EigenCloud

Remote

- Won **1st Place** at program-wide Eigen Labs Agent Hackathon, presented to **founders, VPs, and investors**
- Shipped **3 production agents** on **EigenCompute**: containerized **FastAPI / TypeScript** services in attested enclaves, **deterministic LLM inference** via EigenAI, and **EigenDA dispersal** for attestation logging
- Designed **on-chain verification flows** including ECDSA signature recovery, identity anchoring against smart contract registries, and **image-digest attestation** for cryptographic build provenance

ML Engineer & Research Assistant

Sept. 2024 – June 2025

Integrated Systems Neuroengineering Lab

UC San Diego

- Engineered end-to-end **Python ML pipeline** processing 5-channel time-series data at 250 Hz, implementing **bandpass filtering, CSP spatial decomposition, and cross-validated model evaluation**
- Benchmarked **4 classifier architectures** (SVM, Logistic Regression, Riemannian Tangent Space, CCACSP+LDA) with **5-fold cross-validation**, achieving **80%+ accuracy** on BCICIV_2a
- Authored **9-page research paper** documenting architecture and performance analysis across all classifiers

Software Engineering Intern

Aug. 2022 – Jan. 2023

Bumper Inc.

Palo Alto, CA

- Designed & developed “**Bumper Bites**,” an in-app investing education system used by **17,000+ users** on iOS
- Worked with **product managers & backend engineers** in **Agile sprints** to ship **content management logic** enabling dynamic updates to **50+ educational articles**, improving content release speed by **65%**

PROJECTS / LEADERSHIP

B³ – Automated Bug Bounty Verification | [Deployed Site](#)

May 2026

Python, FastAPI, React/TypeScript, Foundry, ethers.js, viem, EigenCompute (Intel TDX), EigenAI, SQLite

- **1st Place @ Eigen Labs Agent Hackathon.** TEE-sealed agent that **verifies smart-contract exploits without disclosure**, generates signed CVSS attestations, and releases reports only after on-chain payment
- Engineered **Foundry fork-mode replay** against live chain state inside an **Intel TDX enclave** with **deterministic LLM scoring** via EigenAI and **ECDSA-signed verification receipts**
- Deployed **FastAPI** on **EigenCompute** and built **React dashboard** with **ethers.js signature**

AgentFBA – Agentic Market Research Platform

June 2025 – Present

React, TypeScript, FastAPI, PostgreSQL, D3.js, Tailwind CSS, Docker, NGINX, AWS EC2, Ubuntu

- Built full-stack agentic research platform enabling Amazon sellers to analyze **500M+ products** through **natural-language queries**, algorithmic **opportunity scoring**, and interactive **D3.js visualization**
- Engineered **FastAPI backend** with **<8s latency** with **Pydantic schema enforcement & PostgreSQL** storage
- Developed and deployed **React + TypeScript** frontend on **AWS EC2** with **Docker Compose**

Triton Neurotech | *President*

Sept. 2024 – Present

- Direct **70+ developers**; built **ML pipelines** with **scikit-learn, SciPy, and Pandas** for assistive-tech BCIs
- Raised **\$3,000+** in sponsorships; instructed **120+ students** through ML and BCI bootcamps; earned **2nd** at **2025 CNTC BCI Competition** for a **wearable biosignal suit** with live biometric visualization

SKILLS

Languages: Python, TypeScript/JavaScript, Java, C, C++, SQL, HTML/CSS, MATLAB, LaTeX

Frameworks & Libraries: React, FastAPI, PyTorch, scikit-learn, D3.js, Tailwind CSS, spaCy, YOLOv8, NumPy, Pandas

Tools: AWS, Docker, NGINX, Git, PostgreSQL, Linux, OpenAI API, Weights & Biases, Figma