Skanda Vyas Srinivasan

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Education

University of Wisconsin-Madison — Madison, WI
B.S. Computer Science, Mathematics (Double Major) — *Sep 2022 – May 2026*

Experience

Software Engineering Intern — Jun 2025 – Aug 2025
Gemini — *New York,NY*

- Designed a Scala-based feature flag platform with support for granular rollouts along with audience targeting, traffic splits, and safe deletion with dependency checks preventing 100% of breaking changes.
- Built an audit trail system using DynamoDB to track 100s of daily feature flag changes with metadata (user, timestamp, action type, before/after states)
- Modernized the internal admin console for funding using Next.js and TypeScript, implementing cash transfer approval flows, and RBAC for secure operations across 100+ internal users.
- Excelled in the all-intern hackathon to build prototype prediction markets, enabling end-to-end workflows for buying, selling, and redeeming positions after resolution.

Machine Learning Intern — May 2024 – Aug 2024
KBR Inc. — *Dayton, OH*

- Developed ensemble machine learning models using Scikit-Learn to analyze Second Order Effect values, distinguishing 6 branches of identical semiconductors with 90.8% accuracy, aiding in counterfeit detection.
- Conducted feature analysis using PCA and correlation heatmaps on datasets with 60,000 features and 91 samples to improve understanding of semiconductor data separability for better model optimization and selection.
- Designed Python scripts leveraging SciPy and Matplotlib to perform distribution fitting on MultiTone emissions across 8000+ frequencies.

Computer Vision Research — Jan 2024 – May 2024
University of Wisconsin-Madison — *Madison, WI*

- Enhanced computer vision algorithms using OpenCV for tracking leaf lesion progression caused by pathogens such as Xanthomonas gardneri and Pseudomonas syringae in tomato plants.
- Leveraged advanced computer vision techniques to create segmented masks of leaf features, facilitating the analysis of 100+ plant samples, which directly contributed to 3 ongoing research publications.
- Designed a dataset of 27 Diseased Leaves and 135 masks used in the 2024 ML Marathon hosted by ML+X

Projects

Sonexis – macOS Real-Time Audio Processing Application — www.sonexis.ink
Swift, CoreAudio, vDSP/Accelerate, AudioQueue

- Engineered a vDSP-accelerated audio engine with 18 real-time DSP effects, capturing system audio and routing it through user-configured effect chains with sub-10 ms latency
- Architected a low-contention audio pipeline using `os_unfair_lock` and atomic snapshots to ensure glitch-free playback during concurrent UI parameter updates
- Designed an intuitive node-based visual routing system with automatic cycle detection, topological sorting, and signal-flow visualization
- Built end-to-end in Swift/SwiftUI using CoreAudio and AudioQueue APIs, managing real-time ring buffers, safe memory retention in C callbacks, and seamless hot-swapping of audio devices

Decentralized Jenga — onchain-jenga.vercel.app
React, Solidity, Ether.js

- Built a full-stack decentralized game using Solidity smart contracts, React, and Ethers.js with Web3 wallet integration.
- Implemented a commit-reveal cryptographic scheme with keccak256 hashing to prevent front-running and MEV attacks.
- Engineered probability-based physics engine calculating tower stability using structural analysis algorithms and on-chain randomness.
- Deployed to Ethereum Sepolia testnet using HardHat to manage multiplayer game state, and token transfers.

Dynamic Workforce Optimization Platform — Github Repo
PuLP, Python, React, Flask

- Developed a Mixed-Integer Linear Programming model using PuLP to assign tasks based on cost and skill fit, reducing workforce expenses by 20–30%.
- Designed flexible constraints to support partial skill matches and custom thresholds, increasing task-skill alignment by 30–40%.
- Built a full-stack planning tool to produce optimal workforce allocations within 95% of benchmark models.

Technical Skills

Languages: Scala, Solidity, Java, Python, C/C++, R, JavaScript, Typescript, HTML/CSS, C#, SQL, Go
Frameworks/Tools: TensorFlow, PyTorch, Scikit-Learn, Kafka, Spring, LangChain, ReactJS, Node.js, Flask, Chainlit, Angular, Git, Bash, Linux, Postman, PuLP, NumPy, SciPy, Podman, LocalStack, Bazel, Docker, Kafka, Spark, NextJS, Scala Play, DynamoDB