Arin Gadre

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EDUCATION

University of California, Santa Cruz — Santa Cruz, CA
B.A. in Network and Digital Technology — *Expected June 2025*

- Relevant Coursework: Applied ML: Deep Learning, Software Engineering, Computer System Design, Computer Networks, Compiler Design, Advanced Programming in C++, Data Structures & Algorithms, Logic Design, Natural Language Processing

EXPERIENCE

Co-op Intern – GenAI CPU Analytics Tool — Jan 2025 – June 2025
Nutanix — *Remote*

- Architected containerized benchmarking platform for CPU inference of **LLMs** using **Docker Compose**, orchestrating client and VM services
- Enhanced **vLLM inference engine** by integrating **Node Exporter** and **Intel PCM Exporter** to collect detailed CPU performance counters
- Developed **FastAPI microservices** on client and VM sides to coordinate benchmark execution and results management
- Built interactive **Streamlit UI** for configuring, running, and visualizing benchmarks with model selection and parameter tuning
- Configured **Prometheus metrics pipeline** and designed **Grafana dashboards** to visualize model latency, throughput, and system resource utilization
- Designed **SQLite schema** and initialization scripts for persistent storage and analysis of benchmark results
- Project Showcase: **UCSC CSSPP GenAI CPU Analytics**

Software Engineer Intern — Sept 2023 – Present
The Difference LLC — *Remote*

- Architected **Flutter** mobile app components with optimized state management using **Provider**, streamlining 15+ interactive features
- Integrated various **third-party APIs** to enhance application functionality and boost user engagement
- Developed new back-end functions in **Laravel** and performed **DB migrations**, expanding service capabilities
- Implemented **debouncing techniques** to optimize search functionality, **reducing API response time by 60%**
- Created comprehensive **API documentation** using **Swagger**, improving development workflow and **reducing onboarding time by 50%**
- Implemented automated **CI/CD pipeline** using **GitHub Actions**, **reducing deployment time from 45 to 12 minutes**

PROJECTS

BingeFlix | *React, Node.js, MongoDB, ChatGPT API* | Live Demo — Spring 2024
- Developed a unified streaming search platform aggregating **movies**, **sports**, and **anime** from various services
- Led team as **Scrum Master** through **SCRUM** processes, managing sprints and maintaining documentation
- Integrated streaming APIs for real-time availability and **ChatGPT API** for personalized recommendations

Real-Time Drawing Board | *Django, Django Channels, Redis, React* | Live Demo — Spring 2024
- Engineered real-time collaborative drawing platform using **Django Channels** and **WebSocket** for multi-users
- Implemented **Redis channel layer** and **ASGI interface** with **Daphne server** for efficient WebSocket communication
- Deployed containerized backend on **Railway.app** and frontend on **Vercel** with **CI/CD pipeline**

Dino Run Game | *SystemVerilog, FPGA* | Demo Video — Fall 2024
- Designed and implemented a dinosaur runner game using **SystemVerilog** with **finite state machines**
- Programmed **VGA rendering** for pixel-perfect graphics on **FPGA** with real-time obstacle spawning
- Developed modular game logic for **score tracking**, **collision detection**, and **difficulty adjustments**

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, TypeScript, Dart, PHP, Verilog, SQL
Frameworks & Tools: React, Laravel, Flutter, PyTorch, TensorFlow, Keras, Tailwind, Node.js, Express, MongoDB, MySQL, Grafana, Prometheus, Flask
Development: SCRUM, Agile, API Integration, Unit Testing, Debugging Tools, Git, Android Studio, Android SDK, NLTK