Aniket Pratap

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Education

University of California San Diego 3.74 GPA
Master of Computer Science *Graduated Dec 2025*

University of California Irvine 3.83 GPA
Bachelor of Computer Science *Graduated Jun 2024*

Experience

Algorithms Intern June 2025 - Sept 2025
KLA - MACH Team *Ann Arbor, MI*

- Achieved a 100× speedup by redesigning a sequential C++ wafer-etching simulation into a parallel CUDA GPU pipeline, reducing runtime by 99%
- Architected the GPU computation flow end-to-end (kernels, memory tiling, race-condition handling), enabling high-resolution simulations previously infeasible on CPU
- Refactored and modularized a legacy C++ simulation codebase to support GPU execution, reducing debugging time and improving maintainability
- Developed CPU/GPU performance heatmaps in Matplotlib that revealed bottlenecks and were adopted for ongoing internal benchmarking
- Collaborated with engineers across to reverse-engineer the simulation pipeline and ensure CPU/GPU output consistency

Software Engineering Intern Apr 2024 - Sept 2024
Ekastar *Remote*

- Built production dashboards using React and TypeScript that unified data from Amazon, Walmart, eBay, Etsy, and Alibaba for 4,000+ merchants
- Implemented a secure Firebase→Azure token-validated auth flow, improving login reliability and cross-service data consistency
- Improved web load speeds by 70% through async fetching and optimized component rendering
- Worked in weekly product cycles with the CEO and backend team to rapidly deliver customer-facing features

NLP Researcher June 2023 - Apr 2024
University of California Irvine *Irvine, CA*

- Scraped live smoke-cessation forum data and built an NLP pipeline for user-intention detection; deployed a real-time chatbot using AWS Lambda and the GroupMe API
- Fine-tuned GPT-2 to achieve 98% sentiment-classification accuracy and accelerated model training by 40% via NumPy vectorization

Projects

ZotClass + ZotAPI — Full-Stack Mobile & Backend Platform | https://github.com/xXViridianXx/ZotClass

- Built a React Native app (Android/iOS) used by 1,000+ students to search courses, plan schedules, and sync directly to their calendar
- Developed ZotAPI in Python with distributed AWS Lambda scraping, improving data freshness and scrape performance by 99%
- Integrated ZotAPI with the app to deliver real-time enrollment and prerequisite data backed by DynamoDB
- Implemented fast, responsive in-app search and UI flows using TypeScript and React Native components, enabling seamless class-planning experiences across Android and iOS

Technical Skills

Languages: Python, C++, C#, JavaScript, SQL
Systems / Performance: CUDA, multithreading, parallel computing
Frameworks: React, React Native, Node.js, Flask, Django
ML/AI: PyTorch, TensorFlow, NumPy, Pandas, Matplot
Cloud/Tools: AWS (Lambda, DynamoDB), Firebase, Docker, Git,