

Vivek Dhingra

[Website](#)

[Github](#)

Email: viv@dluvs.com

Mobile: +1 (424)-419-8819

[LinkedIn](#)

EDUCATION

- **Loyola Marymount University** Los Angeles, CA
Master of Science in Computer Science; GPA: 3.92 Aug 2025 - May 2026 Expected
Relevant Courses: Concurrency & Distributed Systems, Machine Learning, Natural Language Processing, AI in Game Development
- **Loyola Marymount University** Los Angeles, CA
Bachelor of Science in Computer Science, Cum Laude; GPA: 3.69 Aug 2021 - May 2025
Relevant Courses: Data Structures and Applications, Algorithms and Analysis, Discrete Mathematics, Artificial Intelligence, Cognitive Systems Design, Applied Linear Algebra, Multivariable Statistics, Big Data Visualization

EXPERIENCE

- **Pantry** Los Angeles, CA
Chief Technology Officer October 2024 - May 2025
 - **Product Development:** Architected and led development of a TikTok-style food social media platform, resulting in successful internal beta deployment and 100% user engagement metrics during testing phase.
 - **AI Integration:** Developed pantry scanning feature using multimodal AI (GPT 4o) that analyzes user pantries to generate personalized recipe recommendations, reducing food waste by 30% based on beta feedback.
 - **Technical Leadership:** Managed a large Swift codebase integrating a Firebase backend, leveraging Firestore for metadata storage, Cloud Functions for GPT-powered API workflows, and optimized video compression pipelines to support large media uploads.
- **LMU Computer Science Department** Los Angeles, CA
Teaching Assistant February 2024 - Present
 - **Academic Assessment:** Evaluated assignments for 100+ students across AI and Algorithms courses, providing detailed feedback that improved student performance by 25% on average.
 - **Instructional Leadership:** Conducted weekly 1-hour recitation sessions for Algorithms course, clarifying complex concepts and facilitating discussions that increased student comprehension scores by 30%.
 - **Student Mentorship:** Held 6 hours of weekly office hours supporting students across multiple courses (AI, Algorithms, Intro Programming), helping 50+ students per semester improve their coding skills.
- **LMU Association for Computing Machinery** Los Angeles, CA
Co-President August 2023 - May 2025
 - **Event Management:** Organized and executed 5+ technical events per academic year, including hackathons, workshops, and industry panels, reaching 200+ students and professionals.
 - **Hackathon Growth:** Led LMU Hacks 2025 planning committee, achieving 180% increase in participation compared to previous year and highlighted 3+ new technologies built by participants.
 - **Community Building:** Established partnerships with 5+ industry professionals and faculty members, creating networking opportunities that resulted in internship placements for members.
 - **Leadership Development:** Led bi-weekly 1-hour executive board meetings with 7 members to strategize upcoming events, delegate responsibilities, and ensure seamless coordination across all organizational activities.

RESEARCH

- **Causal Model-based Reinforcement Learning in Multi-agent Systems** Los Angeles, CA
Manuscript Under Review May 2024 - Present
 - **Research Focus:** Developed a hierarchical multi-agent reinforcement learning framework grounded in structural causal models, enabling principled intervention and counterfactual analysis in complex decision systems.
 - **Methodology:** Designed simulation environments supporting causal graph interventions, multi-agent policy coupling, and longitudinal evaluation across evolving reward structures.
 - **Scholarly Output:** Manuscript currently under peer review; research conducted over 1.5 years under supervision of Dr. Andrew Forney and featured in Seaver College Research Spotlight.
- **Dr. Christopher Cormier's Research Team** Los Angeles, CA
Research Assistant May 2024 - January 2025

- **Literature Synthesis:** Analyzed and synthesized 20+ peer-reviewed studies on inequitable access to STEM education, producing annotated bibliographies to support future academic publications.
- **Collaborative Research:** Worked within a small interdisciplinary research team, presenting findings in bi-weekly meetings and contributing to shared analytical frameworks.
- **Policy-Relevant Analysis:** Identified systemic trends in STEM accessibility that informed evidence-based policy recommendations for educational institutions.

PROJECTS

- **Memor - Modern Flashcards Application:** Co-developing cross-platform flashcard application using React Native and TypeScript, featuring spaced repetition algorithms and CSV import functionality. Implemented cloud synchronization and offline support for 1000+ potential users. [Repository](#)
- **Shia LaBeouf's NLP Journey — Direct Preference Optimization:** Developed an interactive text-based narrative system applying Direct Preference Optimization (DPO) with LoRA fine-tuning to align language model outputs with real-time user sentiment preferences. Built a full training pipeline integrating emotion classification, preference pair construction, and iterative adapter-based fine-tuning on GPT-2 and Qwen-2.5-Instruct models, demonstrating improved narrative coherence and output diversity through qualitative evaluation and n-gram divergence metrics. [Repository](#)
- **Recreation of W.E.B. Du Bois Data Portraits:** Programmatically recreated and extended W.E.B. Du Bois's historical spiral data portraits using R, leveraging custom radial geometry and polygon construction to map year-over-year values into spiral ribbons. Built data preprocessing with tidyverse (readr, dplyr), computed spiral geometry parameters (radius, sweep, pitch), and rendered via ggplot2 with manual color scales and text annotations to honor aesthetic integrity and visual encoding principles. Source inspired by the Du Bois challenge: [Repository](#).
- **Passive Trading Bot – Automated Portfolio Manager:** Designed and deployed a personal automated trading system using Alpaca and AWS Lambda to manage periodic capital inflows, dynamically allocate assets across selected equities and ETFs, and rebalance profits over time. Achieved approximately 2% net portfolio growth since October 2025 through disciplined, rules-based execution. Integrated Discord-based notifications for trade execution, portfolio updates, and system health monitoring.

COMPETITIONS & AWARDS

- **LMU Datathon 2025 - Undergraduate Division Winner:** Led team to victory in university-wide data science competition sponsored by Resolution Economics, competing against UCLA, USC, and other top universities. Awarded from \$10,000 prize pool for innovative data analysis solution. [News Article](#)
- **53rd Place - Southern California ICPC Regional:** Competed in prestigious programming competition representing LMU, solving complex algorithmic challenges under time pressure alongside 80+ teams from major universities - October 2023
- **2nd Place - LMUHacks:** Developed innovative software solution during 8-hour hackathon, demonstrating rapid prototyping skills and creative problem-solving abilities - April 2023
- **2nd Place - Git Gud Programming Competition:** Achieved runner-up position in competitive programming contest, showcasing advanced algorithmic thinking and coding proficiency - November 2022
- **LMU BEST Program Certificate:** Completed competitive entrepreneurship bootcamp, developing business acumen and startup strategies while creating AI-powered calendar application MVP - May 2024

PUBLICATIONS & RECOGNITION

- **Seaver College Research Spotlight:** Featured in university publication for outstanding undergraduate research on causal model-based reinforcement learning in multi-agent systems. [Article](#)
- **LMU Hacks 2025 Project Gallery:** Curated and showcased 50+ innovative projects from university's largest hackathon, demonstrating leadership in tech community building. [Project Gallery](#)

SKILLS

- **Languages:** Python, JavaScript, TypeScript, Java, C, R, Swift, LaTeX, SQL, HTML/CSS
- **Frameworks:** React, React Native, Node.js, Next.js
- **AI/ML:** PyTorch, TensorFlow, Keras, scikit-learn, OpenCV, HuggingFace, NumPy, Pandas
- **Tools & Platforms:** Git, Google Cloud, Firebase, MongoDB
- **Applications:** VSCode, Jupyter, R Studio, Tableau, Figma