Andrew Su

asu@physics.ucla.edu | *848-218-2633* | linkedin.com/in/andrewsu485 | andrew-su.com

EDUCATION

University of California, Los Angeles Los Angeles, CA
B.S. Physics, B.S. Computer Science *September 2022 – June 2026*

- **Overall GPA:** 3.75/4.00, Dean's Honor List (Fall 2022, Winter 2024, Fall 2024, Spring 2025)
- **Upper Division Physics GPA:** 3.94/4.00
- **Relevant Coursework:** Physics: Quantum Computing I & II (Graduate Level), Physics: Quantum Mechanics III, Physics: Computational Lab, Physics: Quantum Optics Lab, Physics: General Relativity, CS: Algorithms, CS: Operating Systems

PROFESSIONAL & RESEARCH EXPERIENCES

Brookhaven National Laboratory (BNL) Upton, NY
SURP Research Intern *August 2025 – Present*

- Extended prior summer research through BNL's Supplemental Undergraduate Research Program (SURP)
- Researched anyon errors, methods for improved vertex correction, and logarithmic time ground state initialization

Brookhaven National Laboratory (BNL) Upton, NY
SULI Research Intern *June 2025 – August 2025*

- Conducted theoretical research on non-Abelian topological quantum error-correcting codes under Dr. Layla Hormozi, lead of BNL's Quantum Computing Group, through the Department of Energy's Science Undergraduate Laboratory Internship (SULI) Program
- Designed a topological quantum error-correcting architecture based on the string-net implementation of the doubled Fibonacci model, enabling scalable simulation and exploration of experimental feasibility.
- Developed a framework in Python linking trivalent lattice geometry with quantum backends using Qiskit, quimb, and Matrix Product State (MPS) tensor network methods, providing an extendable platform for further study of the Fibonacci model

UCLA Particle Physics (CMS VR), Department of Physics & Astronomy Los Angeles, CA
Undergraduate Researcher *September 2023 – Present*

- Conducted research under Professor Jay Hauser of the UCLA CMS Experimental Particle Physics Group
- Developed novel VR displays for particle collision events at the Compact Muon Solenoid (CMS) Experiment at the Large Hadron Collider using C# and Unity, granting researchers previously unattainable insight into complex aspects of the collision data
- Expanded and optimized a parser for IG file conversion using C# and Bash, ensuring seamless integration with Meta Quest headsets to display particle collider data in VR

UCLA Nuclear Physics, Department of Physics & Astronomy Los Angeles, CA
Undergraduate Research Assistant *October 2023 – September 2024*

- Conducted research under Professor Huan Huang of the UCLA Experimental Nuclear Physics Group
- Performed analysis using ROOT, C++, and Bash on data from the Relativistic Heavy Ion Collider at Brookhaven National Lab, extracting Fourier coefficients to study anisotropic flow in relativistic nuclear collisions

Wit Sports New York City, NY
Software Engineering Intern *June 2022 – September 2022*

- Developed an interactive full-stack web application for the New York Islanders, increasing fan participation and leveraging modern frameworks such as Node.js, React, and Express
- Designed and implemented intuitive user interfaces using HTML, CSS, and JavaScript, ensuring a seamless and enjoyable user experience

CLUBS & ASSOCIATIONS

Sigma Pi Sigma Physics Honor Society — President *April 2024 – Present*

- Orchestrated membership growth and recruitment initiatives, increasing chapter size by 200% through targeted outreach and value-added offerings
- Instituted a comprehensive academic document archive, physics review sessions, and a paired mentorship system, providing significant academic and professional benefits to members
- Liaised with professors to organize student-professor networking events
- Founded a new undergraduate research fellowship program supporting students with funded research opportunities

William F. Sharpe Fellowship

- Selected as one of 14 fellows for the UCLA Sharpe Fellowship in Economics Tech Cohort, recognizing excellence in leadership, academic achievement, and civic engagement

SKILLS & INTERESTS

- **Skills**: C++/C, C#, Java, Python, ROOT, Unity, QuTiP, Qiskit, Quimb, Git, CMS Computing Tools, NumPy, SciPy
- **Interests:** Grilling, Crosswords, Brazilian Jiu-Jitsu, Tennis, Reading