

Vedant Birla

vedbirla@berkeley.edu | linkedin.com/in/vedant-birla | +1 408 666 6785

Undergraduate student at UC Berkeley studying **Physics** and **Applied Math**, with hands-on research experience in various physics-related fields. Proven **leadership** in managing complex projects, both within the academic sphere and through nonprofit work. Skilled in **programming** and **data analysis**, with a strong foundation in both theoretical and applied scientific research.

Education

University of California, Berkeley Undergraduate	Expected Completion May 2027
<ul style="list-style-type: none">• Double Major: Physics and Applied Math with an Undergraduate Scholarship• Relevant coursework: Quantum Mechanics, Electromagnetism (E&M), Statistical Mechanics, Abstract Linear Algebra, Data Structures, Analytical Mechanics, Abstract Algebraic Structures, Discrete Mathematics, and more	

Projects & Experience

Research with Professor Banerjee at Purdue University	May 2022 - Current
<ul style="list-style-type: none">• Ongoing project studying the quantum properties of quasicrystals and the possible emergence of quantum spin liquids	

Undergraduate Research Assistant under PhD at UC Berkeley	Jul 2024 - Mar 2025
<ul style="list-style-type: none">• Extensive research in simulated quantum systems and QIS using Julia's Quantum Clifford library	

Admitted and Participated in CalHacks 11.0 Hackathon	Oct 2024
<ul style="list-style-type: none">• Built a prototype of productivity software for college students using software including Tkinter for GUI design	

Admitted and Participated in CalHacks AI Hackathon	Jun 2024
<ul style="list-style-type: none">• Built a prototype ML model that breaks down components of audio files to give an accurate analysis of the compatibility and transition between two audio files	

ECDE Foundation	Jun 2019 - Current
Every Child Deserves Education Foundation is a [501(c)(3)] nonprofit working towards providing funds and other educational resources internationally for underprivileged schools.	

Chief Operating Officer	Jun 2021 - Current
<ul style="list-style-type: none">• Define and align responsibilities for all 25 members of the organization• Restructured the organization's domain and implemented new mechanisms to enable more efficient processes and structures• Create programs and projects to provide educational material for underprivileged students• Ran 5 fundraising campaigns and served more than 100 underprivileged students	

Chief Technology Officer	Jun 2019 – May 2021
<ul style="list-style-type: none">• Designed and led the development of the Web Portal for the organization• Drove all technological aspects of campaigns for fundraising and other activities	

Research with Professor Tucker at UC Irvine	Jun 2022 - Feb 2023
<ul style="list-style-type: none">• Working with professor to study physics education and the different methods that students can learn physics, developing my research skills through the process	

Technical Skills

Programming Languages/Technologies: Python (NumPy, SciPy, pandas), Java, HTML, CSS, JavaScript, Bash Script, Julia
Tools: Fusion 360, SolidWorks, Linux, Git, Adobe Photoshop, Microsoft Suite 365, Logic Pro
Spoken Languages: English, Hindi, French

Other Ventures & Recognitions

- **Gold Presidential Service Award** for 300+ hours of volunteer service
- Recipient of the highest rank attainable in the Scouts BSA program, the **Eagle Scout Award** from Troop 0269
- Active member of communities including **UC Berkeley's Society of Physics Students** and **AFX Dance Community**

Work Experience

- **Tutoring Experience:** Advanced Math and Physics, SAT/ACT preparation, and college advising
- **Customer Service Experience:** Worked at retail outlets including GAP and Cold Stone Creamery