

Chintan Vajariya

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EDUCATION

University of Illinois – Urbana Champaign
B.S. in Computational Physics
Minor in Computer Science

Expected May 2026
GPA: 3.98/4.00

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, Java, SQL, HTML/CSS, Dart
 - **Framework/Tools:** scikit-learn, Jupyter Notebook, Selenium, conda, PyCharm, Git VCS, matplotlib, Flutter SDK
 - **Relevant Coursework:** Data Structures & Algorithms, Quantum Physics, Special Relativity, Classical Mechanics, Differential Equations, Programming in C++, Thermal Physics, Electricity & Magnetism, Mechanics
 - **GitHub:** <https://github.com/chintanvajariya>
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WORK EXPERIENCE

Quantum Physics Research @ Fahad Mahmood Lab

Jan 2024 – Aug 2024

Undergraduate Research Software Developer

- Developed [cost-effective Python tool](#) to replace a \$1,000 transcription software, capturing machine data directly into CSV files, resulting in an 85% reduction in data analysis time.
- Designed a [precise alignment calculator](#) with $\pm 0.1^\circ$ accuracy by creating a Python calculator and building a user-friendly GUI in Dart, now utilized over 10 times daily in the lab.
- Assisted in improvement of the accuracy of 2e-ARPES experiments by applying a 5ms time offset, reducing false positives by 70% and increasing the reliability of detecting paired electrons in a 1/1800 success scenario.

Physics Lab Assistant and Peer Mentor

Jan 2024 – Present

- Developed and delivered bi-weekly review sessions and instructional guides, reducing experiment setup time by 30% and increasing hands-on learning time, resulting in a 25% reduction in additional tutoring needs.
 - Guided 24 underclassmen in academic and career planning, contributing to a 95% retention rate in the physics program and a 15% improvement in their average test scores.
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PROJECTS

Capella (Startup Music Platform)

Flutter, PyCharm, SQL

- Created an [innovative music streaming app](#) where listeners earn \$\$ and artists gain exposure, driving artist-fan interaction.
- Earned a \$5,000 microgrant from TEC @ UIUC and Cozad to develop a machine learning-based recommendation algorithm.

NFL ML Win Probability Predictor

scikit-learn, plotly, pandas

- Built a +95% accurate random forest [ML algorithm to predict win probabilities](#) for ongoing games using past NFL play data.

Stock Over/Underweight Calculator

selenium, matplotlib, numpy

- Quantitatively determining [if a stock will outperform](#) its peers using financial security data collected by web scraping Yahoo.
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LEADERSHIP ROLES

President of North Model Congress

Sep 2019 – Jun 2023

- Led one of the top Model Congress teams and won 5 “Best Delegate” awards in collegiate conferences w/ 3,000 participants.
- Pioneered the return from fully virtual meetings and conferences to in-person training, leading the team to win 4 “Best Delegation” awards at conferences with several teams.