

Ishan Biyala | Curriculum Vitae

Triangle Area, North Carolina

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Education

University of North Carolina at Chapel Hill

B.S. Physics

Aug 2025 – Present

Current coursework: Physics 118: Mechanics and Special Relativity, MATH 381: Discrete Math, COMP 210: Data Structures

Green Hope High School

High School Diploma, GPA: 4.0/4.0

Aug 2021 – Jun 2025

Relevant coursework: AP Physics C: Mechanics, AP Physics 2: Electricity & Magnetism, AP Calculus BC, AP Statistics, AP Computer Science A

North Carolina School of Science and Mathematics

NCSSM Online, GPA: 4.0/4.0

Aug 2023 – Jun 2025

Relevant Coursework: Computational Physics, Multivariable Calculus

Research & Projects

NCSSM, Durham

Summer Research in Mathematics

2024

- Submitted first solution for AMM Problem #12449 (team of 3)
- Poster at NC Undergraduate Research and Creativity Symposium
- Learned advanced \LaTeX and collaboration skills

NCSSM Online

Solar System Simulation

2023

- Simulated orbits of Sun, planets, asteroid belt, Kuiper belt, and Oort cloud
- Built in Trinket using Visual Python (GlowScript)

NCSSM Online

Mars Mission Simulation

2023

- Modeled elliptical satellite orbits around Mars using Visual Python (GlowScript)

Physics Events

Quarknet

World Wide Data Day

2023

Analyzed CMS detector data (LHC), measured dimuon event angles.

Quarknet

ATLAS Z-path Measurement

2024

Classified 50 collision events (double lepton, double gamma, etc.).

Sanford Underground Research Facility

Online Dark Matter Masterclass

2024

Analyzed XENON1T detector data, set limits on WIMP interactions.

Achievements

1st Place, Science Olympiad State Tournament – Astronomy (2024)

2nd Place, UNC-Chapel Hill Science Olympiad Invitational – Astronomy (2024)

2nd Place, Duke Science Olympiad Invitational – Astronomy (2024)

Skills

Programming: Python, Java, C#

Scientific Computing: Physics Simulations, Data Science, Machine Learning

Python Libraries: TensorFlow, Scikit-learn, NumPy

Leadership & Service

Chess Achieves Volunteer

Chess Coach

2021 – 2025

625+ volunteer hours teaching chess during weekly lessons and seasonal camps.

Triangle Chess Center Employee

Tournament Director

2023 – 2025

Directed weekly USCF-rated tournaments with 50+ players; Duties include pairings, arbitration, reporting.

Green Hope High School Chess Club

President

2024 – 2025

Expanded membership 10 → 70; organized tournaments; launched volunteer program teaching 30+ kids weekly.

Kramden Institute

Volunteer

2022 – 2024

110+ hours building/troubleshooting computers for underprivileged families.

Hobbies

Chess: 2nd place, 2023 NC K-12 U1800 Championship

Reading: Sci-fi (e.g. *Project Hail Mary* by Andy Weir), non-fiction (e.g. *Until the End of Time* by Brian Greene)

Speedcubing: Solve 3x3 in 18s; proficient in 7 other puzzle types

Game Dev: 11 Unity projects; published 2D platformer on itch.io