

# Aadi Desai

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## Summary

I am an upcoming freshman at the University of Illinois at Urbana-Champaign (UIUC) and plan on majoring in Computer Science. I am seeking research and internship opportunities in Computer Science fields.

## Education

**University of Illinois Urbana-Champaign, Champaign, IL**

**08/2024 – 05/2028**

Major: Computer Science (CS)

**Illinois Mathematics and Science Academy (IMSA), Aurora, IL**

**GPA: 3.92/4**

**08/2020 - 06/2024**

- Completed Courses: Object-Oriented Programming, Machine Learning, BC Calculus, Advanced Biological Systems, Environmental Chemistry, Linear Algebra, Physics, and Introduction to Engineering
- Extracurricular Activities: Indian Student Association (ISA), Native American Student Society (NASS), American Computer Science League (ACSL), First Robotics Competition (FRC), FBLA (Future Business Leaders of America), BPA (Business Professionals of America), TALENT (Total Applied Learning for Entrepreneurship), and Cross-country varsity team

## Research Experience

**Neutral Atom Quantum Computing, Rice University**

**09/2023 – 05/2024**

*Student Researcher*

- Ran and simulated various quantum circuits from multiple benchmark suites
- Focused on solving the computational costs brought by Neutral Atom Quantum Computers
- Implementation of statistical analysis to further optimize circuits ran on Neutral Atom Quantum Computers
- Compared and contrasted effectiveness of 4 heuristics that optimized run time, thereby reducing computational costs

**Electrical and Computer Engineering, Northwestern University**

**09/2022 – 04/2023**

*Student Researcher*

- Simulated network transmissions between mega-constellations, a large system of interconnected satellites in Low Earth Orbit (LEO)
- Analyzed trade-offs between interferences, satellite-client connections, and signal coverage using a Python Monte Carlo simulation to gather quantitative data about overlapping transmissions
- Improved transmission protocols for handling signal interferences for mega-constellation systems in their infancy
- Implemented machine learning techniques and optimized the rate of success

**Pre-College Program, Westlake University**

**07/2023 – 07/2023**

*International Student Researcher*

- Received a scholarship to travel internationally and study in a Chinese University for 3 weeks
- Collaborated with scientists on an international basis in the field of engineering
- Participated in a university-wide science fair, won first place
- Researched ROVs and built one (from scratch) and tested them in a local river
- Collaborated with Biologists to gain information about the local marine life

## Volunteer Experience

**Emerson Study Group (ESG) – a Non-Profit Created and Led by Students**

**02/2022 – 04/2024**

*President*

- Show the wonders of Math to students from under-represented and under-privileged communities
- Create year-long advanced curriculums to teach dedicated middle-schoolers
- Collaborate with local libraries to hold study sessions for students of all ages
- Contribute to community outreach through social events, speaking at public events, and speaking with various schools
- Run weekly 3-hour tutoring sessions for students who are passionate about Math

**Landmark of Des Plaines**

**08/2018 – 02/2020**

*Senior-Care Assistant*

- Assisted seniors living there with routine activities, played bingo, and ran errands
- Helped set up computers/electronic gadgets and taught their usage
- Assisted with fundraising efforts and helped with development of their website
- Served as an advocate to the residents by addressing concerns

**Computer Skills:** Word, Excel, Python, Machine Learning, Object Oriented Programming

**Interpersonal Skills:** Problem solver, quick learner, team player, effective communicator, and responsible