Akshaj Nadimpalli

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EDUCATION

SOUTH WINDSOR HIGH SCHOOL – Class of 2025, GPA 4.3968, SAT: 1530*, South Windsor, CT*

- Relevant Coursework: AP CSA, AP Chemistry, AP Calculus BC, AP Statistics, AP US History, AP Government, AP Computer Science Principles, AP Lang. & Comp., AP Physics C/E&M, AP Spanish, Multivariable Calculus, AP Economics, UConn Writing and Composition, UConn Discrete Math
- School Clubs: National Honor Society, Rho Kappa Honor Society, Science National Honor Society, English National Honor Society

RESEARCH and INTERNSHIPS

Dr. Aliya Babul PhD, *Columbia University* Jul. 2023 - Mar. 2024

- Conducted research on key factors influencing the success of startups, analyzing trends and performance metrics using public datasets.
- Applied advanced data visualization techniques (Matplotlib, Seaborn) and developed predictive models (Decision Trees, Random Forest classifiers using sci-kit learn) to extract insights and validate findings.
- Authored and submitted a comprehensive academic paper detailing the methodology, findings, and implications for publication in the Journal of Student Research.

Dr. Ashani Dasgupta PhD, *University of Wisconsin - Milwaukee* May. 2024 - Dec. 2024

- Exploring the intersection of group theory and machine learning to develop novel approaches for optimizing swarm intelligence systems.
- Designed and implemented a swarm intelligence model utilizing evolutionary algorithms and advanced mathematical structures, including cyclic and dihedral groups, to excel in the "Halite by Two Sigma" challenge.
- Authored and submitted a comprehensive academic paper detailing the methodology, findings, and implications for publication in the Journal of Student Research and the International Journal of Secondary Computing and Applications Research.

CT SCIENCE CENTER

- Teen Innovation Ambassador Jul. 2024 – Aug. 2024
  - Selected as one of 30 students statewide for an exclusive full time internship at the CT Science Center.
  - Designed and led educational programs for underprivileged children focused on electricity, circuits, renewable energy, and STEM engagement (30 hrs/week)
- Teen Advisor Nov. 2022 - Present
  - Successfully coordinated and hosted five large-scale events while developing interactive STEM curricula tailored to young learners.
  - Collaborate year-round as part of the Events Team to manage logistics and support community outreach initiatives.

RIA ADVISORY, *Summer Student Intern* 2022 - 2024

- Selected for a highly competitive software engineering internship at a leading technology and business consulting firm.
- Developed full-stack web applications utilizing Spring Boot for RESTful backend services, MySQL for data management, Angular for responsive UI, and Postman for API testing.
- Collaborated with cross-functional teams to integrate business insights into technical solutions and streamline application performance

I-START VALLEY, *Student Intern* *Dec.* 2021 - May 2022

- Created a business model using Steve Blank's Lean Launchpad Startup Methodology, focusing on iterative customer discovery and product-market fit; completed Stanford University's Design Thinking Crash Course through the Stanford d.school, gaining expertise in creative problem-solving.
- Led a high-impact pitch to venture capitalists, driving strategic partnerships and investor interest.

PROJECTS

VERDANT, *Founder and Developer* *Sept. 2023* - Present

- Built a web app using machine learning to optimize planting schedules and track donations
- Partnered with Power of Peace, South Windsor Community Bank, and South Windsor Food and Fuel Bank to support local food security
- Designed a dashboard to monitor planting progress, yields, and donations

911 Call Analysis Model *May.* 2024 - Jun. 2024

- Developed a Flask app to analyze 911 call data using association rule mining for trend detection
- Automated preprocessing and applied Apriori algorithm to extract patterns in call reasons (EMS, Fire, Traffic)
- Created a web interface for real-time data exploration and actionable insights

OpenCV Shape/Object Recognition Model *Sept.* 2024 - Dec. 2024

- Built an OpenCV-based model to classify digits and shapes using logistic regression
- Preprocessed images and achieved 95% accuracy on MNIST digit recognition
- Created an interactive Flask app for real-time image classification with confidence scores

SERVICE and IMPACT

POWER OF PEACE – Registered 501(c)3, *Volunteer and Group Lead* Jun. 2019 - Present

- Raised over $220K to support underprivileged children through charities like Atma Vidya Ashram, Spoorthi Jyothi Foundation, and Hole in the Wall Gang Camp.
- Managed communications, logistics, and operations for events, including talent shows, music performances, and 5K runs.
- Led a farm project that grew 720 lbs of organic produce for local families in need.

CODE NINJAS, *Volunteer Code Sensei* *Sept. 2021* - Present

- Taught elementary and middle school students programming and robotics fundamentals.
- Mentored FLL and FLL Jr. teams, developed curricula, and taught block coding, Python, Java, HTML, CSS, JavaScript, and C++ for Unity.
- Led full-day summer camps and evening classes, contributing 100+ volunteer hours.

STEAM Forward, Co-President *Sept.* 2023 - Present

- Organize STEAM volunteering opportunities, service awards, and scholarships.
- Collaborated with Dr. Geeta Verma at Univ. of Colorado Boulder to develop system where students were awarded the opportunity to earn college credits for their participation of the National Livedx study.
- Build partnerships with nonprofits and coordinate community events.
- Led the creation of 30+ volunteer events for over 20 students, contributing 100+ volunteer hours.

SOUTH WINDSOR FIRST LEGO LEAGUE, *Lead Coach and Instructor* June 2024 - Present

- Designed a 4-month project-based course for students aged 9–13, utilizing the LEGO Spike Prime platform.
- Taught 40+ students the fundamentals of mechanical engineering and Scratch-based programming for the FLL robotics competition.

YouThrive, *Cofounder and Instructor* *Feb.* 2024 - Present

- Led an initiative to teach middle schoolers entrepreneurship and finance through free, in-person sessions and project-based learning.
- Developed and taught a curriculum on business, finance, and entrepreneurship to 100+ students at local middle schools.
- Partnered with the Youth Investors Society to expand and launch new chapters in California.

SCHOOL CLUBS

FIRST Robotics Competition, *Co-captain: Design, Scouting, and Strategy Lead* Sept 2021 - Present

- Committed 15+ hours per week during peak season (Jan–Apr) and weekly from Sep–Dec.
- Designed and simulated competition-ready robots using Onshape®.
- Collaborated directly with teams to develop winning match strategies for district, state, and international competitions.
- Developed platform to input and analyze scouting data in realtime at competitions
- Mentored new students in software use and scouting techniques to ensure strong team performance.
- Presented design details to judges to win the Innovation in Engineering award at New England District and World Championships

Technology Student Association, *President* Sept. 2021 - Present

- Organized workshops with guest speakers and led competition prep, focusing on ACSL.
- Led the "Girls Who Code" initiative in partnership with other registered nonprofit organizations to promote women in STEM.
- Coordinated booths at elementary school STEM nights to encourage programming interest.
- Developed curriculum and held sessions over summer to teach middle and high schooler students about Python, AP CS and AP CSP courses; taught 50+ students over 8 sessions.

Orchestra, *Section Leader* Sept. 2021 - Present

- Lead the chamber symphony orchestra at my school, guiding sectional rehearsals and performances.
- Serve as second violin for the Sol Solis Consort, a local community orchestra
    - Organized music, mentored younger students, and handled logistics for performances

Science Olympiad, *Competitor and Event Lead* Sept. 2021 - Present

- Achieved top 3 finishes in the following events:
    - Green Generation: Mastered topics in ecosystem management, marine conservation, and environmental policy frameworks.
    - Codebusters: Solved cryptographic challenges using over 10 different ciphers, including Caesar, Vigenère, and Hill ciphers.
    - Trajectory: Designed and built a mechanism to launch a ball at a target, optimizing for radius and height from the device to maximize accuracy and precision.
- Represented the 3-time state championship team at state and national competitions.
- Mentored new members, guiding them through event preparation and competition strategies to enhance team performance.

Model UN, *State Officer and Chair* Sept. 2021 - Dec. 2024

- Debated and led discussions at statewide CTWAC Model UN conferences, focusing on global issues and policy solutions.
- Organized and ran training sessions throughout the year to mentor students in public speaking, diplomacy, and resolution writing.
- Appointed as a CTWAC Officer (Deforestation 2022, Special Joint Crisis 2024), one of only 20 students statewide selected for the position.
    - Collaborated with a fellow officer to organize our assigned committee, gather position papers, and design a crisis event for competition.
    - Moderated debates, ensuring structured discussions and consensus-building within the committee.

Math Team, *Mathlete and A-Team Member* Sept. 2021 - Present

- Ranked 10th individual at the CT State Association of Math League (CSAML), contributing to team success in regional competitions.
- Qualified as a state representative for the American Regions Math League (ARML) team in 2024.
- Led practice sessions and mentored students on advanced competition topics, improving team performance and preparation.

South Windsor High School Tennis, Varsity Player Apr. 2022 - Present

- Competed in Doubles 3 during freshman and sophomore years, contributing to team success in league matches.
- Played 30+ varsity matches, demonstrating commitment, discipline, and teamwork.
- Helped mentor younger players by guiding them through match preparation and strategy.
- Participated in offseason training to improve skills and maintain peak performance throughout the season.

HONORS and RECOGNITION

- **American Invitational Mathematics Examination (AIME) Qualifier (Feb. 2024)**: Qualified for AIME, a prestigious mathematics competition by invitation only.
- **National Merit Scholarship Semifinalist (Sept. 2024)**: Achieved National Merit recognition with a perfect PSAT score, placing among the top students nationwide.
- **Presidential Volunteer Service Award (4-time recipient)**: Awarded for completing over 400 hours of dedicated service.
- **Yale Book Award (May 2024)**: Presented for outstanding personal character, intellectual promise, and achievements across multiple fields.
- **Istart Global Startup Competition**:
    - 2nd place in local program.
    - 4th place at Semifinals and 3rd place overall in Finals.
- **Toastmasters Youth Gavel Leadership Award**: Recognized for outstanding leadership in public speaking and communication.
- **Science Olympiad National Competition (May 2023)**: Achieved 14th place in the Robot Tour event.
- **Science Olympiad State Awards (Mar. 2022–2023)**: Earned silver and bronze medals in the following events:
    - Green Generation
    - Codebusters – Cryptography
    - Trajectory – Engineering
- **Connecticut Science and Engineering Fair (May 2024)**:
    - 3rd place in the Physical Science Group category.
    - Special awards for Engineering and Innovations in Nuclear Energy.
- **Model United Nations Best Delegate Award (Dec. 2022)**: Awarded Best Delegate for the World Affairs Council of Connecticut (CTWAC).
- **FIRST Robotics Team Awards (2022–2024):**
    - 7 District Championship First Place Banners.
    - 2 time Division Winner and 2nd place overall at the New England District Championship.
    - 2 time “Innovation in Engineering Award” at District and World Championships
    - “Autonomous Award” at World Championships
    - World Championship Qualifier and Division First Pick.
- **Orchestra Competition**: Achieved 2nd place in the school soloist competition.
- **American Computer Science League (ACSL) National Finals Qualifier (May 2022–2024):** Qualified for 3 consecutive years for the national finals.
- **Science Fair (Jun. 2022):** 2nd place in the 9th-grade division for a research project on Eutrophication, presented at South Windsor High School.