Aditya Gautham

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Summary

Sophomore building production-grade autonomous systems across competitive robotics, collegiate AUV research, and medical ML – with results at the world stage.

Education

Lynbrook High School | 4.00 GPA August 2024 – Present
- Rigorous Coursework: AP Computer Science A, AP Pre-Calculus, AP Computer Science Principles (5)
- Developed leadership and discipline through the **N**aval **J**unior **R**eserve **O**fficer **T**raining **C**orps program

Work Experiences

Magikid Robotics Lab | Coach July 2025 – Present
- Achieved **100% regional qualification rate** across all coached competition teams
- Taught VEX robotics and Python programming to 30+ students (ages 6–14)
- Designed hands-on curriculum integrating sensors, motors, and control logic

ML Research Intern | Purdue University (Dr. Malshe) May 2025 – August 2025
- Developed Random Forest estimating blood glucose from smartphone PPG video using Python & OpenCV
- Achieved 14.6 mg/dL MAE on 60+ samples, **matching ISO clinical accuracy** standards for glucose monitors
- Engineered time and frequency features from raw video signals for non-invasive prediction

Projects

Autonomous Software Lead | VEX Robotics May 2023 – Present
- Ranked **2nd globally in Autonomous Skills** at VEX World Championship
- Designed and implemented PID-based motion control algorithms in C++ for autonomous routines
- Optimized path planning and execution timing, improving autonomous speed by 28%
- Earned 7× Tournament Champion, 2× Division Finalist (Worlds), 2× Excellence Awards
- Produced technical YouTube series on autonomous robotics with 6,000+ views

RoboSub | SPEAR - Collegiate-level robotics September 2024 – Present
- Implemented the Monte Carlo algorithm for **R**obot **O**perating **S**ystem to support underwater navigation
- Collaborated on full-stack autonomy for a $30K research-grade AUV, including mission planning, perception, and localization systems

CyberPatriot Lead | National Youth Cyber Education Program September 2024 – Present
- Ranked **top quartile in the nation**, reaching the platinum division
- Led team of 6 while gaining hands-on experience with Linux security and network defense

Technical Skills

Languages: Python, C++
Tools: Linux, Git, GitHub, OpenCV, Jupyter, Arduino
Technical Areas: Autonomous systems, computer vision, sensor processing