Aryan Bhatnagar

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EDUCATION

Stevens Institute of Technology, Hoboken, New Jersey — Expected May 2029

Bachelor of Engineering in Mechanical Engineering
Current GPA: 3.96 / 4.00
Awards: Dean's List, Pinnacle Scholar, Edwin A Stevens Scholarship, Presidential Achievement Scholarship
Relevant Coursework: Mechanics, Engineering Design and Systems, Electricity and Magnetism, Robotics Engineering, Principles of Engineering, Engineering Fabrication

ACADEMIC PROJECTS

VEX IQ Autonomous Security Robot
Mechanical Lead

- Designed an autonomous mobile robot featuring a rotating vision sensor and ultrasonic distance sensors for real-time obstacle avoidance and intruder detection.
- Implemented control logic via C++ and structured pseudocode to coordinate a high-torque catapult mechanism and automated alarm protocols.
- Optimized mechanical stability and power transmission by resolving weight distribution imbalances and adjusting gear ratios to increase motor torque for reliable active-response system firing.

Self Watering Plant Pot
Team Lead

- Developed an IoT-integrated irrigation system utilizing Arduino-based sensors to monitor environmental variables and automate greenhouse crop cultivation.
- Engineered SolidWorks CAD assemblies using Design for Assembly (DFA) principles, implementing press-fit tolerances to optimize mass-production efficiency.
- Applied GD&T standards to calculate precise concentricity and material-specific tolerances for PLA components printed on a Flashforge Adventurer 5M Pro.

Inspirit AI Research Project
Eco-Car Finder — October 2022 - March 2023

- Developed a predictive machine learning application using Python and scikit-learn to analyze vehicle CO2 emissions, implementing Multi-Layer Perceptron (MLP) and Random Forest classifiers to identify eco-friendly transport options.
- Engineered data preprocessing pipelines with Pandas to standardize a 7,385-vehicle dataset, utilizing LabelEncoder for categorical feature conversion and optimizing training sets via an 80/20 data split.
- Achieved 85% classification accuracy by leveraging MLP neural networks, outperforming Random Forest decision trees by effectively processing complex multi-variable relationships between engine size, cylinders, and fuel consumption.

CAMPUS EXPERIENCE

Stevens Robotics Club
Mechanical Engineer — September 2025 - Present

- Designed a mechanical alignment system in SolidWorks, creating a rigid locating feature that physically engages with the goal structure to stabilize the chassis and ensure precise repeatability during high-speed scoring.
- Integrated a high-pressure pneumatic actuation system to drive robot extension and manipulation mechanisms, optimizing cylinder placement and air flow regulation for rapid, reliable mechanical deployment.
- Collaborated on high-level match strategy and field logistics, utilizing rigorous testing cycles to refine robot pathing and reduce cycle times, ensuring maximized scoring potential during competitive play.

Stevens SAE Baja
Mechanical Engineer — September 2025 - Present

- Contributed to the design, fabrication, and assembly of an off-road vehicle for intercollegiate competition.
- Gained hands-on experience with manufacturing techniques including welding, pipe bending, and engine system labeling to optimize mechanical performance.

SKILLS

Design: Solidworks, Onshape, Flashprint,, Adobe Photoshop, Adobe Illustrator
Admin Tools: Google Workspace, Microsoft Office
Programming: C/C++ (Intermediate) , Java (Intermediate), Python (Beginner), Arduino (Intermediate), MATLAB (Beginner)
Manufacturing: Bandsaw, Tablesaw, Soldering, 3D Printing, Welding