

Zawad Dewan

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EDUCATION

Stuyvesant High School

Regents Diploma

September 2019 - June 2023

- **GPA:** 95.79/100, **SAT:** 1560
- Relevant Coursework: AP Calc BC, AP CS A, AP Physics C, Multivariable Calc, Systems Level Programming

Cornell University

Bachelor of Science

August 2023 - Present

- **GPA:** 4.029
- Relevant Coursework: Mechanics of Engineering Materials, Linear Algebra, Thermodynamics, Lasers and Photonics, Differential Equations, Object Oriented Programming and Data Structures

EXPERIENCE

Cornell University Nair Research Group

Undergraduate Researcher

September 2024 - Present

- Designing parts for upgrading and repairing a 3-D Concrete Printer used to test mixture designs
- Documenting and refactoring code for controlling the printer for improved accessibility and readability
- Integrating closed-loop stepper motor control to improve printer operation and robustness
- Developing an on-printer system utilizing a Raspberry Pi to allow designs to be wirelessly uploaded for printing

Cornell University Steel Bridge Project Team

Construction Subteam Lead

September 2023 - Present

- Designed, fabricated, and assembled a 20 ft long steel bridge for the ASCE Steel Bridge Competition
- Implemented strategies to optimize bridge construction time, leading to a 50% time reduction
- Performed structural analyses of parts using Abaqus and QC'd parts to ensure adherence to DFMA principles
- Developing a truss structural analysis software in Golang, implementing the Direct Stiffness Method

Stony Brook University Dynamic Structures Lab

Undergraduate Researcher

June 2024 - August 2024

- Spearheaded a collaborative research effort with the Fashion Institute of Technology
- Developed a procedure for 3-D printing PLA onto pre-stretched fabric to create experimental meta-materials
- Designed and fabricated a novel origami-inspired shape-morphing fabric
- Characterized the material properties of Lycra fabric via an Instron machine

NYC FIRST

Intern

July 2023 - August 2023

- Presented lessons for Summer Bridge and Professional Development workshops
- Assisted during the Stem Center's public hours, helping 15+ students with robotics-related projects and training
- Implemented a custom holonomic robot localizer to assess the efficacy of FTC dead-wheel odometry
- Developed a publicly available PID Control simulator in Python

FIRST Tech Challenge Team 479 Stuy Fusion

President

June 2022 - June 2023

- Coordinated the designing, prototyping, and building of the competition robot
- Oversaw engineering education for 20+ team members and taught fundamentals of the FIRST program
- Managed the team budget and inter-team relationships, and coordinated logistics for regional competitions

Apex Scientific Inc.

Systems Administrator and Graphic Designer

June 2022 - Present

- Provide quick and responsive technical support to 20+ clients across the United States
- Manage customers' phone systems, internal mailboxes, and websites

Cornell University Emerson Manufacturing Learning Studio

Part-Time Trainer/Machinist

September 2024 - Present

- Training students in MAE 2250 and Engineering Project Teams on proper Lathe and Mill usage
- Performing general shop and machine maintenance tasks

HONORS AND AWARDS

Sam and Norbert Rothstein Memorial Scholarship

2023

- Annual scholarship granted to a gifted immigrant by the Stuyvesant Alumni Association

TECHNICAL SKILLS

Design: Illustrator, Photoshop, Fusion 360, Abaqus FEA, Cura, GD&T, DFMA

Manufacturing: CNC/CAM, laser cutting/engraving, 3D printing, Milling/Turning

Programming: Python, Java, C, Golang, Excel