

ANISH PATEL

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Education

New York University – Tandon School of Engineering

Expected May 2028

Bachelor of Science in Mechanical Engineering (GPA: 3.81/4.00)

Brooklyn, NY

Relevant Coursework: Engineering Design Methods, Mechanics of Materials, Dynamics, Materials Science, Engineering Mechanics
Electric Circuits, Differential Equations, Calculus-Based Physics I–II, Multivariable Calculus, Linear Algebra

Experience

ADAPT Community Network – TechWorks — *Mechanical Engineering Intern*

Jun 2026 – Aug 2026

- Designed and prototyped adaptive soccer systems for day habilitation participants with mobility limitations, including a PVC lever-activated kicker and switch-activated leaf-blower ball launcher; configured a robot for goalkeeping and modified 3D-printed parts in Tinkercad to increase range of motion and reduce stiffness.
- Produced 10+ assistive-device parts using Prusa XL, Prusa i3, and MakerBot Replicator 3D printers, including mounts, card holders, pen grips, and switch parts; assembled and set up a Prusa XL and used PrusaSlicer to prepare and adjust multiple prints.
- Built foldable, weighted two-part barricades from drywall with an interlocking post-and-wall mechanism, then translated the physical design into digital models and dimensioned technical drawings for fabrication.
- Researched assistive gaming technology, comparing adaptive switches, controllers, and setups for users with mobility limitations.

Brooklyn Neighborhood Improvement Assoc. (BNIA) — *Research & Design Intern*

Jul 2026 – Aug 2026

- Assessed neighborhood waste infrastructure by documenting litter hotspots, receptacle locations, and site conditions to identify better placement and design options for public-space waste systems.
- Evaluated infrastructure and accessibility conditions and developed CAD concepts for public-space improvements based on site constraints and accessibility needs.
- Researched and compared four stormwater-management systems, including catch basins, permeable pavement, rain gardens, and underground detention, to understand how each could help reduce runoff and street flooding.

DOE HeartShare — *Activity Specialist*

Jul 2024 – Present

- Led structured activities for groups of 20–30 participants, planned schedules and materials, maintained attendance and incident records, coordinated daily operations with staff, and assumed manager responsibilities during high-workload periods.

Projects

Design and Stability Analysis of a Quadcopter Drone — *Fusion 360, Structural Analysis*

- Designed a parametric quadcopter frame, optimizing arm geometry, motor spacing, and mass distribution for an estimated thrust-to-weight ratio of $\sim 2.2:1$.
- Positioned the battery to place center of mass within ± 2 mm of the geometric center and designed a friction-fit camera mount with $\pm 30^\circ$ tilt adjustment.
- Applied beam theory to estimate arm stress, deflection (< 1.5 mm), and factor of safety (~ 2.3).

Parametric Design of an Adjustable Folding Phone Stand — *Fusion 360, Parametric Modeling*

- Designed a fully parametric folding phone stand with linked dimensions for rapid design changes without breaking assembly constraints.
- Implemented dual revolute joints and a slot-guided hinge with six discrete positions for controlled multi-angle viewing and compact folding.
- Validated interference-free folding and stable support for devices up to ~ 1.5 kg.

Mechanical Drafting and Fabrication of a Support Bracket — *AutoCAD, Additive Manufacturing, DfM*

- Designed a support bracket for an estimated 100 N load, optimizing geometry and print orientation for strength and manufacturability.
- Produced engineering drawings with ± 0.2 mm tolerances and fabrication notes; FDM printed the part and verified dimensional accuracy within ± 0.3 mm.

Technical Skills

Tools: Fusion 360, AutoCAD (2D/3D), Tinkercad, PrusaSlicer, Microsoft Excel

Analysis: Static Load Analysis, Beam Bending, Center of Mass & Stability, Factor of Safety

Manufacturing: FDM 3D Printing, Rapid Prototyping, Design for Manufacturability (DfM), Dimensional Inspection

Leadership & Activities

Engineering Club

2025 – 2026

Treasurer

Brooklyn College

- Managed club budget and financial records, tracked expenses, and allocated funds for technical workshops and student projects.

Languages

Fluent in Gujarati, Hindi, and Urdu