

RIYA GUTTIGOLI

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EDUCATION

Cornell University, College of Engineering, Ithaca NY

Bachelor of Science in Mechanical Engineering | Minor: Business

Planned M.Eng in Systems Engineering

Expected May 2026

Expected Dec 2026

Relevant Coursework: Heat Transfer, Fluid Mechanics, System Dynamics, Mechanics of Materials, Mechanical Synthesis, Dynamics, MATLAB, Statistics, DiffEQ, Mechatronics, Waves & Oscillations, Advanced Product Design, Finance, Electric-Drive Vehicles

PROFESSIONAL EXPERIENCE

Draper, Electromechanical Systems & System Packaging, Mechanical Engineering Intern

May 2025 - Aug 2025

- Engineered adaptive breadboard plate to interface electromechanical test hardware with v165 shaker able to withstand SRS profiles up to 500 Gs. Applied FEA and first-principles to optimize manufacturability and rigidity for performance tests.
- Developed air driven test assembly for guided munitions, integrating mechanical and electrical hardware while maintaining high-reliability operation. Modeled system performance using LabVIEW and MATLAB for data-driven optimization.
- Reverse-engineered a thermal socket to analyze and model precision translation mechanism for PCB chip placement on rad-hard IMU; produced drawings and assembly instructions to enable production handoff.

The MITRE Corporation, Mechanical & Reliability Systems Team, Mechanical Engineering Intern

May 2024 - Aug 2024

- Produced 40+ 3D-printed scaled prototypes of HEMP-protected enclosures for UHF line-of-sight alerting systems for Air Force transport on c-130 aircraft. Used SolidWorks, Creo PTC, and Ansys SpaceClaim for design and defeaturing, Ansys Icepak for heat transfer simulation, and applied rapid prototyping skills via additive manufacturing.
- Researched aerial refueling and digital aircraft scanning to support aircraft lifecycle improvements; authored two white papers on certification frameworks and digital twin integration, aligning mechanical and electrical system requirements.
- Collaborated with multidisciplinary teams across cybersecurity, aerospace, and electronic systems.

ADDITIONAL EXPERIENCE

Cornell Hyperloop, Mechanical Subteam, Mechanical Team Lead

Jan 2023 - Present

- Lead 40+ member team in designing and fabrication a scaled magnetic levitation pod competing annually at the Canadian Hyperloop Conference; manage integration of propulsion, levitation, structures, and braking subsystems.
- Directed testing of a linear induction motor for thrust characterization to inform pod constraints; driving R&D of scaled "minpod" prototype and designing custom electromagnets to generate magnetic force up to 50 lbs.
- Implemented thermal management system using aluminum fins and fans to achieve 30°C coil temperature reduction, verified with MATLAB and Ansys thermal simulations.
- Collaborate with electrical engineers on power supply integration, structural mounts, and EMI shielding with Faraday cages.

Cornell Architectural Robotics Lab, Research Assistant

Oct 2023 - May 2025

- Prototyped adaptive robotic surfaces for living/work spaces that respond dynamically to environmental conditions, integrating actuation and sensing mechanisms to improve energy efficiency and spatial sustainability.
- Generated CAD models and reports for modular mechanical systems; supported testing and iteration from experimental data.
- Wrote test procedures for user studies to assess human preferences, recorded results, and updated requirements.

Cornell Nazaqat [Kathak-Fusion Dance Team], Classical Captain

Aug 2022 - Present

- Choreograph, teach, and oversee traditional dance pieces for university performances & nationwide competitions.
- Collaborate on the Nazaqat executive board & make decisions governing team dynamics, goals, schedule, and conduct.

Cornell Society of Women Engineers, Member

Aug 2022 - Present

Kappa Alpha Theta, Iota Chapter, Member Development Committee, Board Member

Jan 2023 - Present

SPECIALIZED SKILLS

CAD	SolidWorks	Fusion360	Inventor	Creo	AutoCAD
Software	MATLAB	LabVIEW	LaTeX	C++	
FEA/Simulation	ANSYS Workbench/Fluent/Icepak		Hand Calculations		
Prototyping & Manufacturing	3D Printing	GD&T	Lathe/Mill/Laser Cutter	Tolerance Stack-Ups	
Collaboration & Documentation	Design Reviews	BOMS	White Papers	Block Diagrams	

HONORS & AWARDS

B.A. in Performing Arts, Samved Conservatory of Indian Classical Music and Dance

2021

FIRST Dean's List Semi-Finalist, FIRST Robotics Competition, Team 2714

2020, 2021