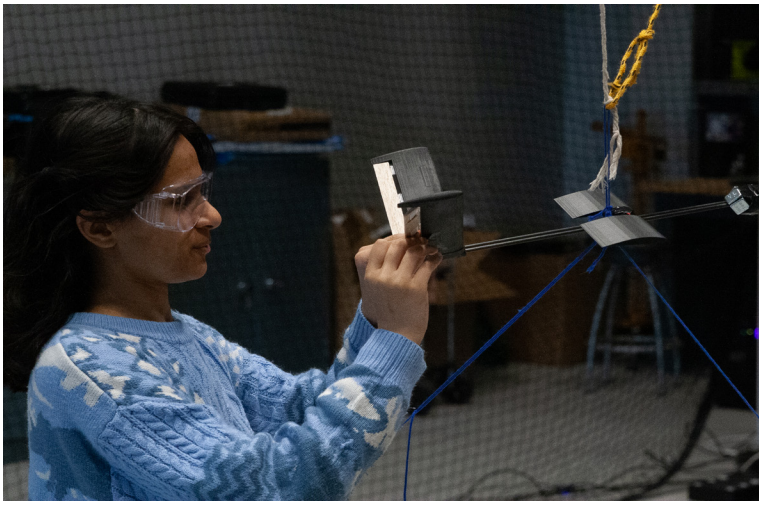


Mechanical and Aerospace Engineering
2025 Design and Manufacturing Expo
May 9, 2025

RUTGERS–NEW BRUNSWICK
School of Engineering
Department of Mechanical and Aerospace Engineering

RUTGERS–NEW BRUNSWICK
School of Engineering
Department of Mechanical and Aerospace Engineering

Course Coordinators	Prof. Xi Gu Prof. Assimina A. Pelegri
Teaching Assistants	Mr. George Gianoukakis Ms. Rituparna Mohanty Mr. Zhizhuo Zhang
Design Specialists	Dr. Basily Basily Mr. Ioan-Mihai Gradina Mr. Milan Simonovic
Seminar Speakers	Mr. Milan Simonovic *Rutgers MAE* Prof. Stephen Tse *Rutgers MAE* Dr. Merrill Edmonds *Siemens* Mr. Alejandro Ruiz *Rutgers REHS* Prof. Richard Dool *Rutgers School of Communication & Information*

NOTE FROM THE CHAIR

We are very delighted about the 2025 Design and Manufacturing Expo. During this year's Expo, 42 groups will present their exciting projects, guided by our faculty. In addition, this event is a unique opportunity for our students to showcase their talent, innovation, ingenuity, teamwork, and engagement.

The Mechanical and Aerospace Engineering Department is a vibrant academic community offering three undergraduate degrees in Mechanical Engineering, Aerospace Engineering, and Applied Sciences (Packaging Engineering concentration). In addition, the Department offers graduate/advanced programs leading to M.S., M.Eng., and Ph.D. degrees.

Our close to 40 full-time faculty members educate more than 1,000 undergraduate and 180 graduate students. Our thriving community of students, faculty, alumni, and industry partners is devoted to collaborative work at the highest standards of research and innovation. Our faculty members are dedicated to enabling our students to achieve success and become problem solvers and innovators. Students have access to a wide range of classes that train them in the core principles of mechanical and aerospace engineering. In addition, they can participate in research projects as undergraduates, allowing them to gain experience in real-world applications comparable to research conducted by industry. Our faculty has achieved distinction among their peers and as fellows of professional engineering societies, including the American Society of Mechanical Engineers (ASME), American Institute of Aeronautics and Astronautics (AIAA), American Physical Society (APS), Acoustical Society of America (ASA), and American Academy of Mechanics (AAM). Our Department has an exciting and multidisciplinary research portfolio, which includes advancing scientific knowledge and technology in various areas, including nanostructures, hypersonics, autonomous robotics, electro-hydrodynamics, fluid interactions, energy science, and advanced materials, among many others.

We are grateful to all judges for their sustained commitment and participation in this event and our external Advisory Board for its dedicated support through the planning and execution. Thanks to all the faculty advisors, for leading and coordinating the entire Senior Project experience. To our staff, particularly Dr. Basily Basily, Mr. Milan Simonovic, and Mr. Ioan-Mihai Gradina, for their technical advice in reviewing designs and manufacturing project components.

To our students, we are very proud of your efforts and accomplishments! We wish you a successful and rewarding career. Stay in touch!

Assimina A. Pelegri, Ph.D.
Professor and Chair
Department of Mechanical and Aerospace Engineering

NOTE FROM THE COORDINATORS

Dear students, parents, and friends,

We would like to take this opportunity to welcome you to the Mechanical and Aerospace Engineering Department at Rutgers! In the following pages, you will find the Senior Design projects for AY 2024-25. During these projects, students have the opportunity to work with industry and faculty advisors, gaining experience in real-world engineering. Many of these projects can lead to new technologies or other innovations outside of academia, and they help our students transition to life after graduation.

To our seniors, we celebrate your accomplishments and appreciate your efforts. Your class achieved record numbers in engaging in professional and educational development activities, including internships and co-Ops, JJ Slade fellowships, and undergraduate research opportunities. You are now at the finishing line, ready to explore the many "tomorrows" to come. Many of you will continue your education in the BS/MS program at Rutgers or pursue higher degrees at other institutions, and many of you, at the time of this letter, have secured jobs. We are very proud of you and what you have accomplished in the last four years. We know that this was not easy for many of you, but again you raised to the occasion, and you showed how innovative, entrepreneur, and resourceful our young MAE engineers are. Use the inspiration and ingenuity you exhibited in your classes to propel you in the next chapters of your lives!

We would also like to express our gratitude to the course teaching assistants, George Gianoukakis, Rituparna Mohanty, and Zhizhuo Zhang, whose hard work and dedication made senior design experience possible.

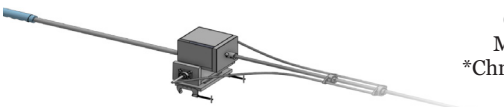
This brochure is a record of your achievements! Congratulations, Class of 2025!

Xi Gu, Ph.D.
Associate Teaching Professor
Dept. of Mechanical & Aerospace Engineering

Assimina A. Pelegri, Ph.D.
Professor and Chair
Dept. of Mechanical & Aerospace Engineering

DESIGN AND MANUFACTURING PROJECTS

ELECTRICALLY POWERED WATERCRAFT



Faculty Advisor
Prof. Prosenjit Bagchi

Group Members
Matthew Cadillac
*Christopher Cafiero
Kevin Hughes
Matthew Prebola
Kyle Rutter
Stephen Weller

B1

This project is Rutgers University's inaugural entrance into A.S.N.E.'s Promoting Electric Propulsion competition in Virginia Beach, VA in April 2025. The design consists of a long-tailed electric outboard motor designed for a manned watercraft.

RU POWER: MARINE ENERGY COLLEGIATE COMPETITION

Faculty Advisor
Prof. Onur Bilgen

Group Members
Owen Birbrower
Matthew Chen*
Marc Giordani
Everett Murray
Ryan Phillips
Zachary Soricelli

B4

A collegiate competition centered around designing innovative devices to harness marine energy, promoting sustainable solutions for a greener future through engineering and creativity.

KAYAK PADDLE ADAPTATION FOR UPPER LIMB DISABILITIES

Faculty Advisor
Prof. Haim Baruh

Group Members
Christopher Castro
Justin Chey
*Ashleigh Jacobs
Byron Ng
Erin O'Connor
Brandon Yam

B2

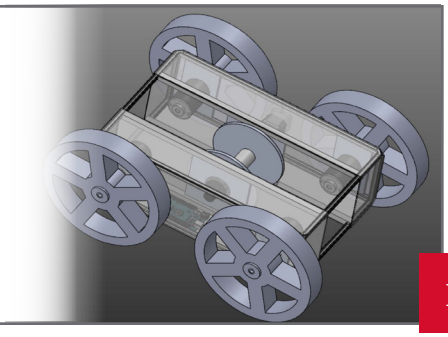
This adaptive device uses a pivot system to suspend a kayak paddle, allowing individuals with upper limb disabilities to paddle effectively. It was designed specifically for the group leader's father, whose arm is partially paralyzed.

SKYLIGHT ACESS AND LAVA TUBE EXPLORATION

AEROSPACE DESIGN PROJECT

Faculty Advisor
Prof. Haym Benaroya

Group Members
Kayla Bowen
Sarah Brennan
Francesca Fusco*
David Lambert
Spencer Talish
Shaan Virdee

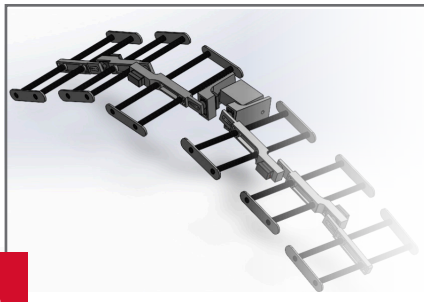


B7

A robotic lunar rover designed to descend through a skylight, explore a subsurface lava tube, and transmit critical data, supporting future human habitation and scientific discovery on the Moon.

MECHANICAL BIRD

AEROSPACE DESIGN PROJECT



Faculty Advisor
Prof. Prosenjit Bagchi

Group Members
Therese Rose Aquino
Vincent Chen
Rishav Gupta
Akhil Varghese
*Gauranshi Yadav

B3

This project focuses on developing a mechanical bird that replicates the natural flapping motion of real birds. The design emphasizes biomimicry, aiming to mimic the movement and creating a realistic wing motion mechanism.

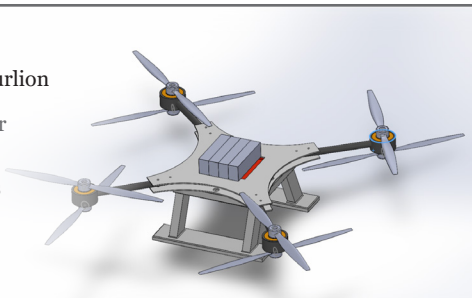
STREAMLINED HEAVY LIFT SMALL UAS

AEROSPACE DESIGN PROJECT

Faculty Advisor
Prof. Laurent Burlion

Industry Advisor
Dr. Shane Esola

Group Members
Ian Phipps
Gary Redden
Justin Toribio
Bob White*



BA

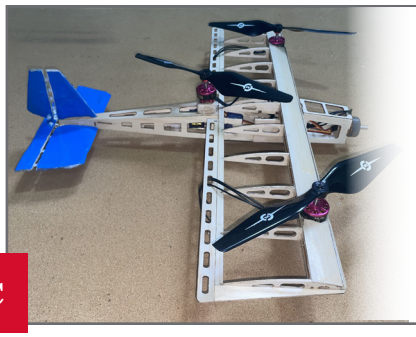
This project aims to create a durable, lightweight, and thrust efficient drone that can carry a payload that is heavier than itself. The quad-copter design features four folding arms with each having two coaxial rotors.

*Group Leader

DESIGN AND MANUFACTURING PROJECTS

STOP-ROTOR ROTARY WING AIRCRAFT

AEROSPACE DESIGN PROJECT



Faculty Advisor
Prof. Laurent Burlion

Industry Advisor
Mr. Gaylord Olson

Group Members
Trinisha Banerjee
*Srijay Kavuru
Morgan Lazarus
Sam Maltzman
Aryan Patel

BC

Develop a non-conventional drone that seamlessly transitions between helicopter and fixed wing mode to maximize efficiency and negate the need for a runway.

DEPLOYABLE GLIDER FOR AUTONOMOUS WAYPOINT MISSION

AEROSPACE DESIGN PROJECT

Faculty Advisor
Prof. Edward DeMauro

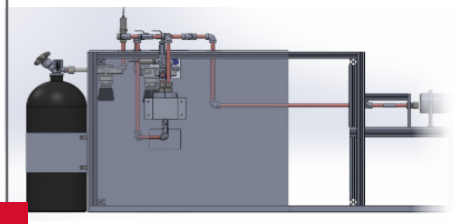
Group Members
Atharva Deokule
James Petrides
Noor Hasan
Tim Robinson*

D1

This project is a deployable glider capable of autonomous, targeted guidance during flight. Its objective is to complete mission 3 at the American Institute of Aeronautics and Astronautics (AIAA) Design, Build, Fly (DBF) competition.

DESIGN AND TESTING OF A LIQUID ROCKET ENGINE

AEROSPACE DESIGN PROJECT



Faculty Advisor
Prof. Steven Berg

Group Members
Alex Bryan-Jones
Sean Connolly
*Jack Kellaher
Jay Patel
Jeet Patel
Joe Yang

BE

The design and testing of a scalable liquid bi-propellant rocket engine capable of producing 300 Newtons of thrust continuously for 5 seconds and a test stand capable of recording thrust and pressure.

HAND-OPERATED HYPERSONIC SHOCK TUNNEL

AEROSPACE DESIGN PROJECT

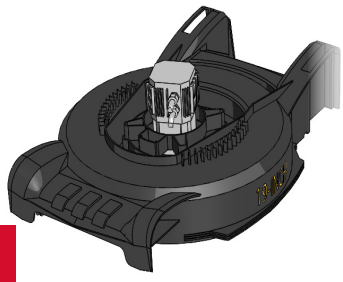
Faculty Advisor
Prof. Edward DeMauro

Group Members
Mike Caruso
Abdulbasit Malik
Ethan Oliva*
Ahmed Salem
Kelly Vazlima
Jeffrey Zhou

D2

With a blend of practical and theoretical knowledge, this team was able to create a hypersonic shock tunnel driven by human force.

THE G.O.A.T (GPS OPTIMIZED AUTONOMOUS TRIMMER)



Faculty Advisor
Prof. Kimberly Cook-Chenault

Group Members
*William Austin
Abderahman Belkhayat
Osamah Bhutta
Gabriel Romero
Tyler LaQuinta
Jacob Shum

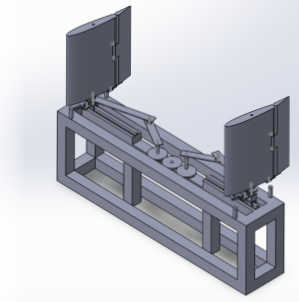
C3

The GOAT modifies a lawnmower using RTK and GPS for 2 cm precision mapping, with enhanced safety features and advanced object detection. Developed by six students, funded by Honest Horticulture, and Rutgers.

BIO-INSPIRED FLAPPING WING ENERGY HARVESTER

Faculty Advisor
Prof. Mitsunori Denda

Group Members
Michael Baldwin
Yaakov Burton
Adam Moskowitz*
Zachary Salamon
Daren Sitchepping Fosso
Yechiel Vahab



D3

Two mirrored airfoils with flaps move colinearly along smothless track to harvest wind energy which is then converted into electrical energy.

DESIGN AND MANUFACTURING PROJECTS

AEROSPACE DESIGN PROJECT

WEATHER MONITORING TETHERED DRONE

D4

Faculty Advisor
Prof. Francisco Javier Diez-Garias

Group Members
Johnathan Friedrich
Jerry Kong
*Andrew Lu
Alex Shao

A tethered drone system capable of extended flight times and weather monitoring. The use of a lightweight tether and automated spooling system allows for a tensioned cable during the flight.

LIQUID-BASED PORTABLE FILTRATION SYSTEM

D8

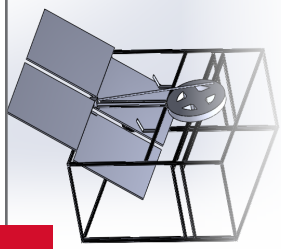
Faculty Advisor
Prof. German Drazer

Group Members
Omar Aguero
David Castillo
Matthew Karnaugh
Arthur McOgon*
Jason Szymczak

A compact, liquid-based air filtration system that uses water to capture and remove airborne pollutants, improving air quality. Designed for portability, it offers an innovative solution for cleaner and healthier air in any environment.

BIO-INSPIRED FLAPPING WING ENERGY HARVESTER

D5



Faculty Advisor
Prof. Mitsunori Denda

Group Members
Sam Chan
Ryan Cheung
Alexander Menendez
Tyler Pham
*Mya Pierson
Eriverto Salvador-Garcia

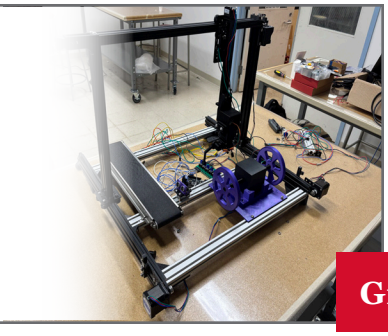
Scientists discovered that birds use advanced flapping aerodynamics to move through the air more efficiently than man-made aircraft. The goal of this project is to use this phenomena to harvest energy from the wind.

AUTOMATIC GANTRY SYSTEM FOR FRONT DIFFERENTIAL

G1

Faculty Advisor
Prof. Xi Gu

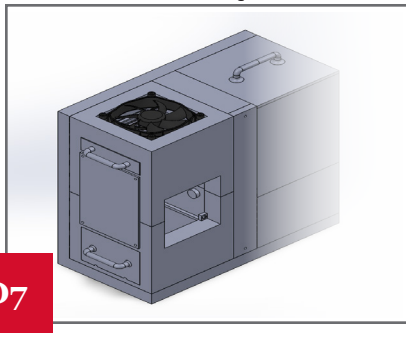
Group Members
Ethan Chan
Andrew Goldberg
Trevor Kiss
Noah Lewis
David Tovar*
Kundy Yeung



A gantry system is an overhead framework for heavy material handling in industries. When assembling a differential, steps include cleaning parts, applying lubricant, installing gears, adjusting shims, and ensuring proper alignment for smooth operation.

LIQUID-BASED PORTABLE FILTRATION DEVICE TO IMPROVE IN-DOOR AIR QUALITY DURING SMOKE EVENTS

D7



Faculty Advisor
Prof. German Drazer

Group Members
Ryan Duthie
Junaid Ilyas
Dean Springhorn
Kentaro Taguchi
*William Wiedau

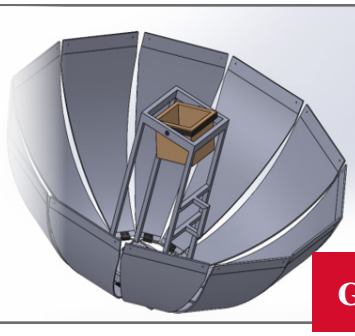
Our project develops a portable air filtration device that uses water to capture harmful smoke particles (PM2.5), improving indoor air quality during wildfire events. This affordable, efficient system offers safer breathing environments for everyone.

PORTABLE SOLAR COOKER

G4

Faculty Advisor
Prof. Zhixiong Guo

Group Members
Mark Chuang*
Travis Foerst
Andrew Galloway
Daniel Rivera
Jake Spoor



Our project is a solar cooker that is efficient yet portable. Our design allows for easy removal and storage of sunlight concentrators without sacrificing efficiency.

DESIGN AND MANUFACTURING PROJECTS

DIGITAL DESIGN AND MANUFACTURING OF CUSTOMIZABLE KNEE IMPLANTS

Faculty Advisor
Prof. Yuebin Guo

Group Members
Joseph Bogan
Hallie Gordon
John Moore
*Aryeh Sheinson

G5

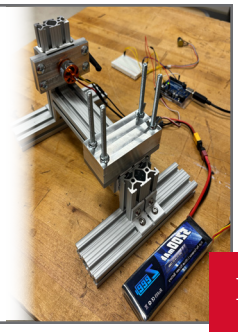
This project focuses on creating an upgraded knee implant prototype tailored to individual patient needs, addressing challenges in cost, customization, and implant longevity through digital design and additive manufacturing technology.

DESIGN OF TEST STAND FOR ELECTRIC MOTORS FOR RC AIRCRAFT

AEROSPACE DESIGN PROJECT

Faculty Advisor
Prof. Doyle D. Knight

Group Members
Luke Doerr-Fredrickson
Chloe Karlsons*
Zahid Nasim
Jason Woo



K1

A motor generator test stand utilizing brushless DC motors and an Electronic Speed Controller to analyze power transfer, torque, efficiency, and performance characteristics in an experimental setup.

CONCENTRATED SOLAR POWER

Faculty Advisor
Prof. Yogesh Jaluria

Group Members
Manav Aggarwal
Eryn Cohn
*Joseph Monte
Patrick Pangilinan
Zachary Schwartz
Malek Wahba

J1

A small-scale solar collector designed to heat household water efficiently. It captures sunlight, converts it to thermal energy, and warms water for daily use, offering an eco-friendly, cost-effective solution for domestic hot water needs.

DESIGN OF TEST STAND FOR ELECTRIC MOTORS FOR RC AIRCRAFT

Faculty Advisor
Prof. Doyle D. Knight

Group Members
Douglas Doyle
Ahmed Elshamaa
Masih Ganjvar
Timothy Kubik
Shlok Majmundar*

K2

A test stand for RC electric motors measuring torque, power, current, and RPM. It includes an IR sensor, Arduino-based data collection, a power sensor, adjustable motor and IR sensor mounts, and an aluminum frame, ensuring accurate, repeatable performance evaluation within budget constraints.

WIND ENERGY AND STORAGE SYSTEM

Faculty Advisor
Prof. Yogesh Jaluria

Group Members
Deniz Ay
Habiba Ashour
Rylie Gantz
Sanjay Ramcharan
*Benjamin Stevens
Daniel Sidi

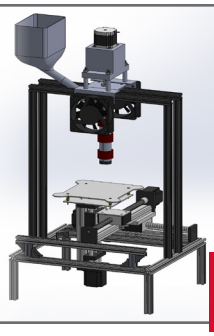
J2

A wind driven water system that stores and pump water for agriculture irrigation system implementing wind turbine, centrifugal pump, Arduino controlled valves, and automated water supply system.

3D PRINTER MOVING BED FOR THERMOPLASTIC PELLET-FED 3D PRINTER

Faculty Advisor
Prof. Jennifer Lynch-Branzoi

Group Members
James Bragg
Feng Huang
Samay Mehta
Geries Zalzal*



L1

A cost-effective thermoplastic pellet-fed 3D printer featuring a moving heated bed and stationary extruder, designed for enhanced scalability, material diversity, and sustainability in additive manufacturing.

DESIGN AND MANUFACTURING PROJECTS

EXTRUDER FOR A THERMOPLASTIC PELLET-FED 3D PRINTER

Faculty Advisor
Prof. Jennifer Lynch-Branzoi

Group Members
Michael Foong
Justin Glick
Jaylen Patel
*John Walsh

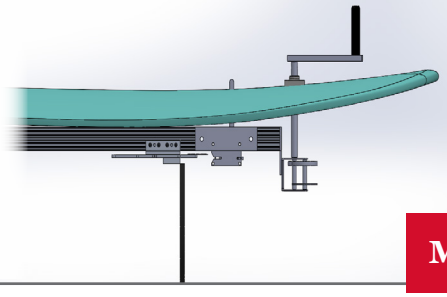
L3

An extruder for a thermoplastic pellet-fed 3D printer designed for materials research, enabling customized feedstock usage while reducing waste and achieving a greater operating range with temperatures reaching up to 400°C.

SURFBOARD PROPULSION

Faculty Advisor
Prof. Aaron Mazzeo

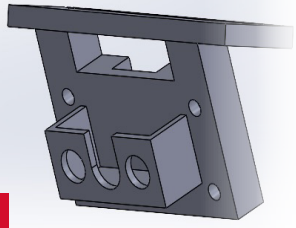
Group Members
Akshat Ananthu*
Joseph Bobowski
Faraz Christy
Sebastian Gonzalez
Dhruv Patel



M3

The surfboard propulsion unit aims to assist beginner surfers when it comes to catching their first wave, allowing them to receive a small boost of speed at the pull of a lever.

3D MONITORING SYSTEM FOR THERMOPLASTICS, THERMOSETS



Faculty Advisor
Prof. Rajiv Malhotra

Industry Advisor
Dr. Shane Esola

Group Members
John Hamway
Tommy Hallock
*George Ibrahim
Md Sabbir

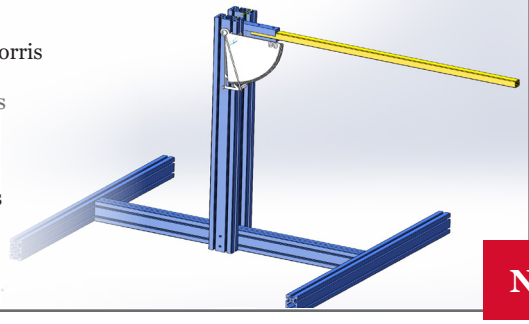
M1

We are mounting camera which will provide view of our printing process with detection capacity. So that, we can correct the potential issues such as layer misalignments and material inconsistencies.

COST EFFECTIVELY IMPROVING STRENGTHS OF 3D PRINTS

Faculty Advisor
Prof. Andrew Norris

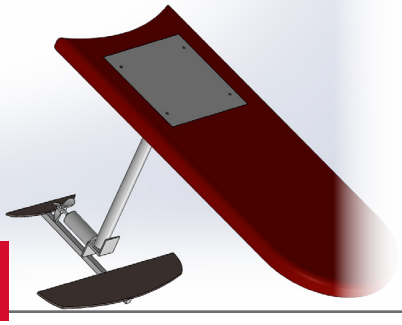
Group Members
Egor Maroz*
Yunjie Liu
Sean Kenny
Adam Lammers



N1

By creating a handful of 3D printable designs and testing them all with a custom designed impact tester, we can find the most ideal infill design.

ELECTRIC HYDROFOIL



Faculty Advisor
Prof. Aaron Mazzeo

Group Members
Mark Dehnert
Joshua Dolson
*Bryan Keating
Tyler Lipchus-Wong
Matthew Newton

M2

This electric Hydrofoil is made to withstand even the weight of a 100-kilogram individual while maintaining lift at a cruising speed, all this done with a budget of $1,000.

RFR AUTOMOTIVE RACING DAMPER

Faculty Advisor
Prof. Assimina Pelegri

Group Members
Gavin Henry
Ibraheem Khan
John Kim
Aaron Lipton
Sudip Suresh*
William Weiss

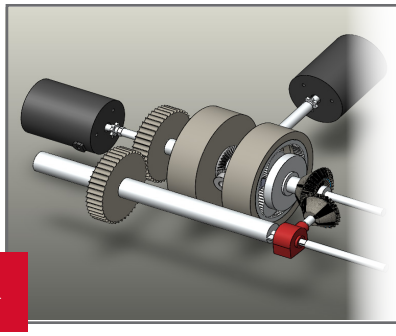
P1

Rutgers Formula Racing, the Formula SAE team at Rutgers University, is developing a custom mono-shock damper for their upcoming 2025 car, allowing for no-compromise performance of the suspension and improving the handling of the car.

DESIGN AND MANUFACTURING PROJECTS

CONTINUOUSLY VARIABLE TRANSMISSION FOR WIND TURBINES AND PROPULSION

AEROSPACE DESIGN PROJECT



Faculty Advisor
Prof. Amin Reihani

Group Members
Max Carnevale
Kishan Dalal
*Abdullah El-Dessouky
Daniel Lonarkar

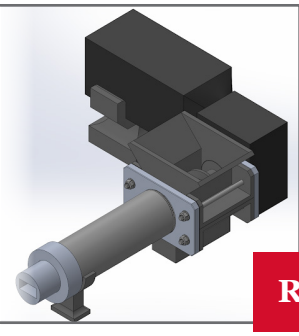
R1

A constant speed output, high torque CVT using planetary gears for increased reliability for speed-sensitive applications such as wind turbines.

COMMERCIAL-GRADE EXTRUDER MACHINE

Faculty Advisor
Prof. Todd Rossi

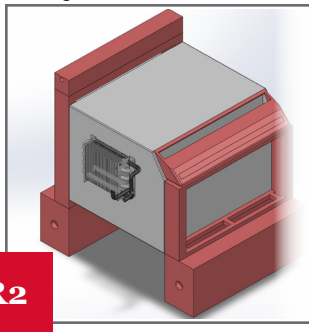
Group Members
Nolan Carr
Karthik Kanithi
Tyler Mackey
George Mihaileanu*



R4

The Commercial-Grade Extruder is a compact, cost-effective solution for small businesses in the nutrition bar industry. It ensures consistent bar formation, improved output efficiency, reliability, portability and affordability for businesses lacking access to industrial extruders.

LIQUID DESICCANT MODIFICATION FOR AIR CONDITIONING



Faculty Advisor
Prof. Todd Rossi

Group Members
Raymond Dominguez
Nicholas Neel
*Christopher Quesada
Arman Sevintuna
Yesh Shrivastava

R2

The liquid desiccant modification for air conditioning utilizes potassium acetate in a counter crossflow configuration to evaporate captured water through the latent heat of the air conditioner.

DRONE FOR AUTOMATED MAPPING OF FLOW GENERATED BY WINDWALL

AEROSPACE DESIGN PROJECT

Faculty Advisor
Prof. Jerry Shan

Group Members
Amir Abdelmalak
Juniel Chavez
Carlos Lopez
Michael Delesky*
Adam Sonbol
Vishwa Suntharesan

S1

An autonomous drone equipped with advanced sensors and control systems to map wind flow velocity in Rutgers' Windshaper wind wall, providing accurate data for aerodynamic research and simulation validation.

HYBRID DIRECT EXPANSION LIQUID DESICCANT DEHUMIDIFIER WINDOW AC UNIT

Faculty Advisor
Prof. Todd Rossi

Group Members
Nicholas Ericksen
Hadassah Freedman
Erin Grossman
Douglas Hoven
*Christian Mathis

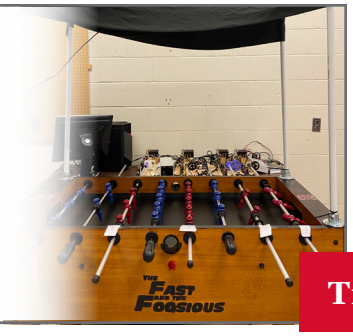
R3

Improving upon a standard ac window unit by attaching a liquid desiccant system to make it more efficient at cooling and dehumidification.

THE FAST AND THE FOOSIUS AUTOMATED FOOSBALL TABLE

Faculty Advisor
Prof. Stephen Tse

Group Members
Muhammad Ali
Aidan Choo*
Maya Gharat
Isabel Toro
Rebecca Wisser

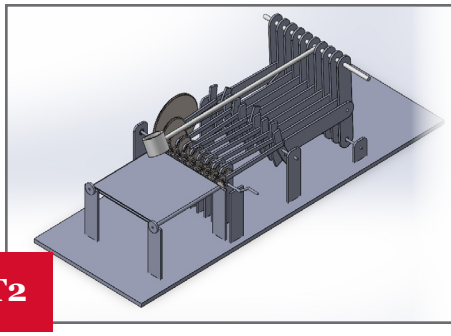


T1

This project aims to enhance an automated foosball table by integrating advanced image processing, actuation systems, and game tactics to simulate a realistic, autonomous game of foosball for both beginners and experts.

DESIGN AND MANUFACTURING PROJECTS

MECHANICAL HARMONIC ANALYZER



Faculty Advisor
Prof. Stephen Tse

Group Members
Thomas Bayley
*Sky Chen
Javier Martinez Alvarez
Citlali Uraga Campos

T2

A mechanical harmonic analyzer decomposes a periodic waveform into individual sine or cosine waves at multiples of frequency. The process simulates Fourier analysis using gears, cam arms, rocker arms, amplitude bars, and a pen mover.

DESIGN OF STRONG AND LIGHTWEIGHT SPHERICAL PRESSURE VESSEL USING CARBON FIBERS AND EPOXY RESIN

AEROSPACE DESIGN PROJECT

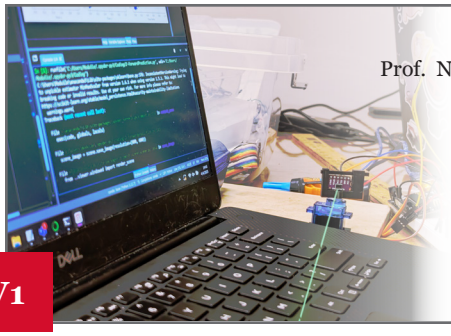
Faculty Advisor
Prof. George Weng

Group Members
Saicharan Idhayan
Jason Lee
Tyler Lin
David Serback
Sean Sharma*

W2

Design and optimization of a lightweight spherical pressure vessel using carbon fiber and epoxy resin, ensuring structural integrity, manufacturability, and performance for high-pressure applications in aerospace and industrial sectors.

NON-DESTRUCTIVE MATERIAL DISCONTINUITY DETECTION ARTIFICIAL INTELLIGENCE DEVICE



Faculty Advisor
Prof. Nikolaos Napoleon Vlassis

Group Members
Daniel Maciejewicz
Manav Patel
Om Patel
*Shyamal Patel

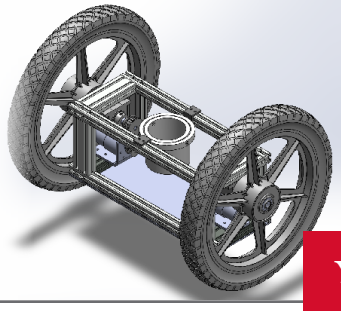
V1

Our setup involves infrared sensors collecting distance data. The data will be processed by artificial intelligence to predict the discontinuity's size, shape, and location.

STABLE TRANSPORTATION DEVICE

Faculty Advisor
Prof. Jingang Yi

Group Members
Jeffrey Min
Jalpan Patel
Ayman Rouf
William Scatko*



Y1

Our project aims to extend applications of two-wheeled robots by maintaining adequate balance and speed while transporting liquid payloads. Applications include the delivery of sensitive or hazardous materials in unfavorable environments to humans.

CYLINDRICAL PRESSURE VESSEL

Faculty Advisor
Prof. George Weng

Group Members
*Jack Batt
John Bukofsky
Amar Kharrubi
Justin Miles
Kishan Patel

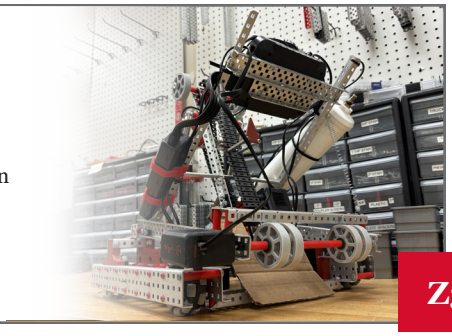
W1

Design and manufacturing of a lightweight cylindrical pressure vessel using carbon fiber and epoxy resin, optimized for strength, safety, and cost-effectiveness, capable of withstanding 300 psi with a safety factor of 3.

VEXU ROBOT MANIPULATING RINGS IN A DEFINED ENVIRONMENT

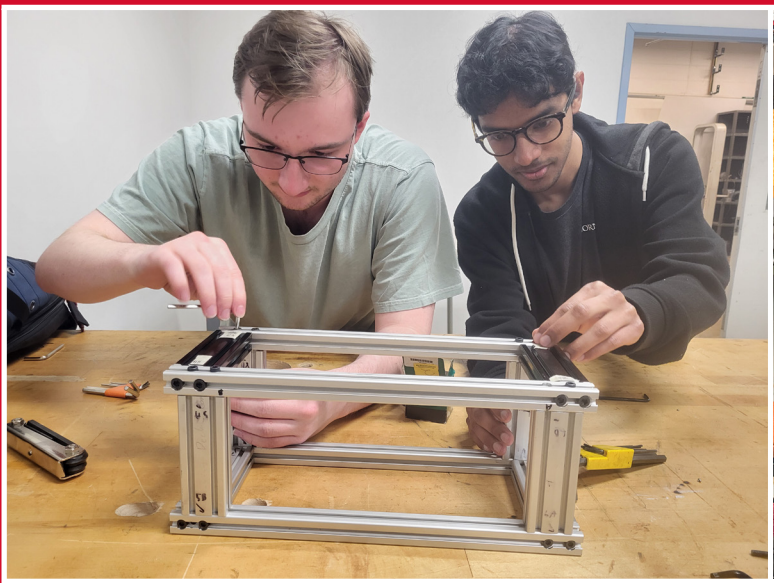
Faculty Advisor
Prof. Qingze Zou

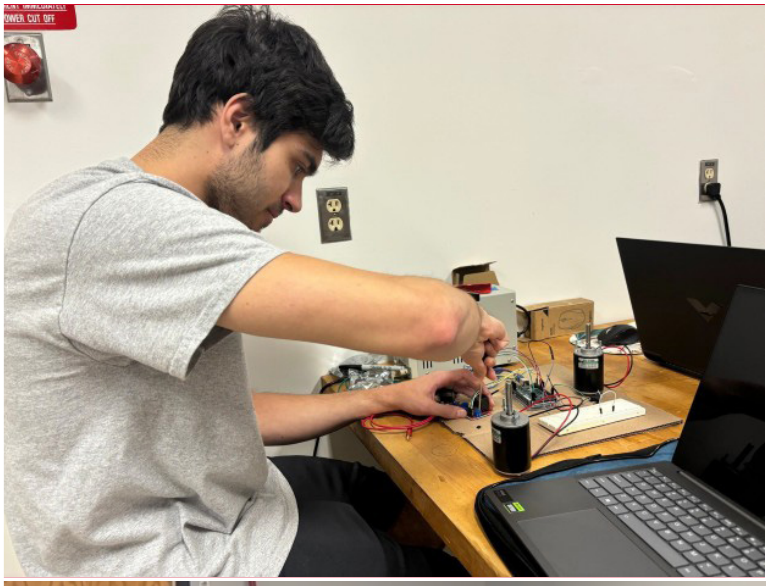
Group Members
Michael Grossi
Mahadevan Seetharaman
Alex Wang
Jouan Yu*

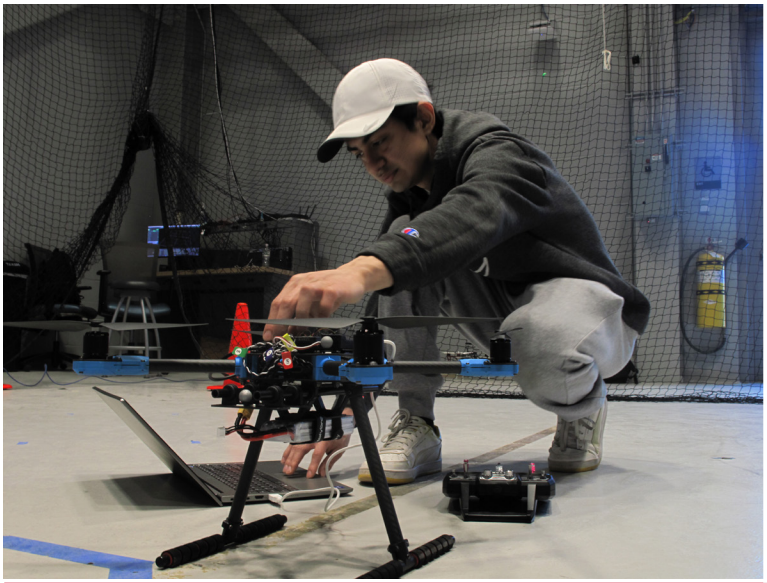


Z3

Designing, modeling, building, and operation of an autonomous robot that can manipulate rings, move mobile goalposts, and climb rungs to score points in the VEXU High Stakes Skills Challenge.







Cover Photos (All group members listed left to right):

Front top: Joseph Bobowski (M3)
Front bottom left: Ashleigh Jacobs (B2)
Front bottom right: Noor Hasan (D1)
Front inside left: Rishav Gupta, Therese Rose Aquino, Gauranshi Yadav (B3)
Front inside top right: Kundy Yeung, Andrew Goldberg, Ethan Chan, Noah Lewis (G1)
Front inside bottom right: Rebecca Wisser, Maya Gharat (T1)
Back inside top left: William Scatko, Ayman Rouf (Y1)
Back inside top right: Everett Murray (B4)
Back inside middle left: Spencer Talish (B7)
Back inside middle right: Carlos Lopez (S1)
Back inside bottom: Mike Caruso, Abdulbasit Malik (D2)
Back: Matthew Newton (M2)

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The Department of Mechanical Engineering at Rutgers was founded in 1908 with a focus on driving the country's industrial growth. Aerospace Engineering was added in 1965 as a certificate program with a full degree program established in 2015. It is now the only Aerospace Engineering degree offered among New Jersey's public universities. The Department is a vibrant academic community offering three undergraduate degrees in Mechanical Engineering, Aerospace Engineering, and Applied Sciences (Packaging Engineering concentration). The Department has state of the art laboratories used for research leading to M.S., M.Eng., and Ph.D. degrees. Undergraduate and graduate students participate in cutting edge research funded by federal and state agencies, and industrial partners. With close to 40 full-time faculty members, the Mechanical and Aerospace Engineering Department educates more than 1,000 undergraduate students and more than 180 graduate students. Excellence in both research and teaching is the top priority for our faculty.

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