Keyur J. Rana

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**OBJECTIVE**: Secure an INROADS Internship where I will use my Electrical Engineering background and collaboration skills to further company growth.

**EDUCATION**

Rutgers University School of Engineering New Brunswick, NJ

Bachelor of Science in Electrical Engineering Expected Graduation: May 2024

Cumulative GPA: 3.526

Honors: Dean’s list - 2 Semesters

**EXPERIENCE**

**NASA HUNCH Design and Prototype National Finalist**

*Lunar Flag Pole*  (Fall 2019–Spring 2020)

* Researched, modeled, and pieced together a collapsible Lunar flagpole to withstand the harsh environment of Space, trip to the Moon, and the Lunar ascent module engine exhaust
* Devised a potential fix to minimize the effort setting up the flagpole by integrating a drill motor with custom built 1 helix Auger drill bit
* Incorporated the electrical and power system for the motor, which enabled the assembly and setup in less than 30 seconds and in succession minimized labor required by Astronauts

*Collapsible Sleeping Quarters*  (Fall 2018–Spring 2019)

* Managed and coordinated with a 20-member team, presented progress and ideas regularly with the Project Manager
* Designed and developed a prototype from scratch of the collapsible sleeping quarters for the International Space Station with a budget of $150
* Took the initiative in building a control panel for monitoring ventilation, CO/CO2 readings, and crew health
* Achieved favorable recognition by applying automation to a design presumed to be manual

**SKILLS**

**Software**

* C++, HTML, CSS, JAVA, MATLAB, ROBOTC, Multisim
* Certified Autodesk Inventor User, CAD

**Hardware**

* Circuit design and CNC milling
* Competent proficiency in implementing with VEX, TETRIX, and Microcontrollers

**PROJECT EXPERIENCE**

**Automated Guided Vehicle (AGV)**

* Formulated and instituted an AGV that follows a line path carrying cubes to simulate inbound and outbound handling for replenishment and for picking
* Conceptualized and programmed the Cortex Microcontroller in standard C using ROBOTC program

**Marble Sorter**

* Engineered and constructed a robot that sorts 20 marbles with different properties and appearances using VEX Robotics
* Gained hands-on experience with VEX robotics and refined programming skills using ROBOTC

**LEADERSHIP EXPERIENCE**

**Formula Racing - Rutgers**  (Fall 2021–Current)

*Electric Powertrain*

* Research ways to monitor and identify faulty voltages of individual battery cells from a large Li-ion battery pack
* Design vehicle’s low-voltage and high-voltage systems from 12V to 400V
* Communicate and collaborate with sub-teams to run tests and discover potential malfunctions
* Fundraised over $22,000 through football concession stands

**Engineering Club**

*SeaPerch*  (2016–2018 & 2019–2020)

* Led and collaborated with a 6-member team to solder and assemble the controller and remotely operated underwater vehicle
* Gained experience in understanding the behavior of vehicles underwater and overcoming obstacles
* Competed and placed 3rd for presentation in the Northern New Jersey SeaPerch Regional competition

**SkillsUSA**

*Urban Search and Rescue*  (Fall 2018–Spring 2020)

* Designed and assembled the Mobile Robot for simulated Explosive Ordnance Disposal using TETRIX components
* Coordinated and instructed crucial instructions for navigator controlling the robot through the obstacle course
* Competed and placed 3rd in the 2019 Urban Search & Rescue Regional Competition