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**Respected Hiring Manager,**

My name is Devesh Datwani and I am a second year graduate student pursuing Robotics Engineering at Worcester Polytechnic Institute, Worcester, USA.

This cover letter is an attempt to articulate my skill set & passion for robotics, computer vision & deep learning.

My robotics journey began right from high school when I started building fixed wing aircraft to satiate my passion for aeronautical engineering. In my tryst with aerial vehicles, I built aircraft powered by gas & electric motors, experimented with various composites & enabled cruise control autonomy with PID controllers.

To now fortify my hobby turned passion, I pursued an undergraduate program in mechanical engineering to develop knowledge in subjects of engineering mechanics, fluid mechanics / aerodynamics, electronics & structured programming. For my undergraduate dissertation, my team & I designed a research project to design plasma actuators for flow induction inside hollow pipes. The experiments for this project were conducted at the Propulsion Lab at the Aerospace Department of IIT, Bombay using a one of a kind high voltage high frequency transformer. Having observed exciting results, my team & I decided to apply for a utility patent for our device.

With exciting progress in the space of machine learning & limitations of traction in the space of mechanical engineering, the natural next step in my journey was to pursue a masters studies that would give me the exposure & experience to develop skill-set in robot autonomy. This led me to pursue MS in Robotics Engineering at the Worcester Polytechnic Institute (WPI). Shortly into the program, I was selected to represent WPI at the NASA Extreme Challenge 2022 wherein my team and I built a novel robot power distribution mechanism to build a low weight Martian rover. My stint at WPI has involved academics & projects in the space of general robotics, deep learning & computer vision. WPI has granted me with amazing opportunities to work at research labs like Popovic Lab, Surface Meteorology Lab & Human Inspired Robotics Lab which has only enriched my skill-set with invaluable experience.

Through this cover letter, I would like to highlight one of the exciting projects I was a part of under the capstone experience at WPI. The project was tailored to cater home owners for maintaining real time fire safety preparedness. After extensive consultations with the Chief and Deputy Chief of the Worcester Fire Department, my team and I developed a novel approach for preventing fatalities during fire hazard situations with SLAM, computer vision and motion planning techniques. This experience demonstrates my technical skills, ability to engage with stakeholders, identify problems & think critically to build robotics solution tailored for the end user.

With this, I submit to your fine sense of judgement to make a call on my application.

Sincerely,

