

# Rishabh Solanki

GRADUATE RESEARCH ASSISTANT

81, Mill Street, MA 02740, USA

☎ (+1) 508-717-5407 | ✉ rsolanki@umassd.edu | 🏠 <https://rishabh01solanki.github.io> | 📱 rishabh01solanki | 🔗 [linkedin.com/in/rishabh01solanki](https://www.linkedin.com/in/rishabh01solanki)

## Summary

Physics graduate passionate about solving complex problems using data. Highly-capable leader, having led multiple research projects to completion. Proficient in a range of modern technologies including Python, Java, machine learning and Linux. Interested in learning new technologies and tools. Honest, dependable and enjoys working independently or within a team setting. Patient, respectful and productive.

## Work Experience

### UMass Dartmouth

MA, USA

GRADUATE RESEARCH ASSISTANT

Sep. 2021 - present

- Developed, designed and implemented novel modules for an approximate Riemann solver using Python and Fortran.
- Optimised the flow and architecture of various numerical solvers to provide faster run time.
- Built fully automated CI/CD pipelines using Github Actions which streamlined the development process.
- Proficient in massively parallel programming including MPI and multi-threading. Ran Python scripts on petabytes of data to drive informed decisions.

### Instruments Research and Development Establishment

Dehradun, India

RESEARCH INTERN

Aug. 2018 - Sep. 2019

- Co-developed end-to-end process/pipeline spanning data collection, harmonization, and visualization using Java and MATLAB.
- Resolution rates for various versions were visualized periodically using Tableau.
- Provided tracking ability for each entity to the stakeholders leading to a better client satisfaction.

### University of Petroleum and Energy Studies

Dehradun, India

UNDERGRADUATE RESEARCHER

Sep. 2017 - Aug. 2018

- Developed a machine learning based Java applet that trained itself in real-time on orbital data which led to a predictive model for collision detection.
- Optimized the raw data set for better feature recognition using Tensorflow which resulted in more accurate and precise collision predictions.

## Education

### University of Massachusetts Dartmouth

MA, USA

M.S. IN PHYSICS

Sep. 2021 - May. 2023

- Designed, managed, and taught recitation and laboratory classes consisting of 100+ students in the undergraduate series, Physics for Science and Engineering.

### University of Petroleum and Energy Studies

Dehradun, India

B.S. IN AEROSPACE ENGINEERING

July. 2014 - May. 2018

- Winner of the 2018 UPES annual Java coding challenge.

## Technical Skills

**Programming** Python (including NumPy, SciPy, Matplotlib, Django, Tensorflow), JAVA, Fortran, C++, HTML  
**Software & Tools** FLASH, MESA, Git, LaTeX, Bash, Docker, MATLAB

## Outreach

2022	<b>Coordinator</b> , Graduate Student Senate, UMass Dartmouth	USA
2021	<b>Member</b> , Society of Physics Students, UMass Dartmouth	USA
2018	<b>Organizer &amp; Co-director</b> , Space Club	India