Rishabh **Solanki**

GRADUATE RESEARCH ASSISTANT

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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	**Coordinator** ,	Graduate Student Senate, UMass Dartmouth	*USA*
2021	**Member**,	Society of Physics Students, UMass Dartmouth	*USA*
2018	**Organizer & Co-director**,	Space Club	*India*