

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 on Github.
- Experience with 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.

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 input data set for better feature recognition using Jupyter notebook.

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