

Rishabh Solanki

GRADUATE RESEARCH ASSISTANT

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Summary

Physics graduate passionate about solving complex problems using data. Highly-capable leader, 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

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| 2022 | Coordinator , Graduate Student Senate, UMass Dartmouth | USA |
| 2021 | Member , Society of Physics Students, UMass Dartmouth | USA |
| 2018 | Organizer & Co-director , Space Club, UPES | India |