RISHABH SOLANKI

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OBJECTIVE

Physics Graduate with expertise in numerical simulations, machine learning, and data analysis. 5+ years of experience in Python and Fortran with a track record of performance optimization and problem-solving. Seeking a challenging role to develop and drive business results through data insights.

EDUCATION

University of Massachusetts Dartmouth, Master of Science in Physics — Expected May 2023
GPA 4.0 Relevant Coursework: Linear Algebra, Computational Physics, Statistics, Applied Mathematics and Data Structures.

University of Petroleum and Energy Studies, Bachelor of Science in Aerospace Engineering — 2018
GPA 3.4

EXPERIENCE

Graduate Research Assistant — September 2021 - present
UMass Dartmouth — *MA, USA*

- Developed and implemented mathematical and data models for time-series analysis, using Python and Fortran, to optimize numerical method-based solvers for astrophysical applications.
- Conducted comprehensive data analysis on large datasets, employing techniques such as machine learning and statistical modeling, to drive impactful decision-making and research outcomes.
- Streamlined code review, testing, and documentation processes, resulting in increased efficiency and accelerated software release cycles.
- Utilized Linux command line interface for software integration, qualification, and automation tasks, ensuring seamless collaboration and project management.

Quantitative Research Intern — August 2018 - September 2019
Instruments Research and Development Establishment — *Dehradun, India*

- Designed and implemented a high-performance data processing pipeline using Java and MATLAB to facilitate real-time analysis of complex datasets in a multidisciplinary research environment.
- Applied expertise in Numpy and Pandas to optimize the processing pipeline, leading to significant improvements in efficiency, accuracy, and scalability.
- Collaborated with cross-functional teams to develop innovative solutions for data modeling, API integration, and predictive analysis, enhancing overall research productivity.

TECHNICAL PROJECTS

Time-Series Supernovae Classifier — December 2021 - August 2022
Utilized machine learning and numerical computing techniques in Python to successfully classify supernovae by reading FITS file data, extracting features and labels, and training and testing the classifier. This involved applying analytical skills to do system-level design and reliability testing.

Electricity Usage Analysis — November 2022 - January 2023
Developed a detailed electricity usage analysis code in Python using Tensorflow and Pandas to track usage in hourly intervals and identify consumption patterns. It also suggests usage optimization strategies and includes monitoring of solar panel energy production.

SKILLS

Technical Skills	Python, Java, Fortran, SQL
Frameworks	Numpy, Pandas, Tensorflow, Matplotlib, MPI
Software & Tools	Git, Linux, MATLAB

EXTRA-CURRICULAR ACTIVITIES

- Member of Society of Physics Students, Presenter, Hiker, Badminton player, Website designer, Collaborator.

April 3, 2023