Raamis Hussain

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Education

Doctor of Philosophy, Physics 2016 – 2021
University of Wisconsin – Madison
- GPA: 3.55

Bachelor of Science: Physics 2012 – 2016
University of California, Santa Barbara
- GPA: 3.74, Graduated with Highest academic honors and Research Distinction Award

Relevant Experience

Wisconsin IceCube Particle Astrophysics Center Jan 2017 – Present
Graduate Student Researcher

- Performed likelihood analyses and hypothesis testing on large particle physics and astronomical datasets using Python and scientific computing libraries such as NumPy, SciPy, Pandas etc.
- Built a low-latency pipeline to automatically perform likelihood analyses within 5 minutes of receiving public alerts from the Gamma-ray coordinates network API. Results were reported within the hour and sent to the astronomical community to inform future observing strategies
- Created data visualizations using Matplotlib and Healpix which helped refine statistical methods used in hypothesis tests
- Wrote and contributed to 5 papers published in major physics journals
- Collaborated effectively with groups consisting of senior scientists, post-doctoral fellows, and several graduate students. Mentored other graduate students in statistics and programming

Worster Fellow | CERN Jun 2015 – Sep 2015
Undergraduate Researcher

- Received competitive undergraduate research fellowship for summer research at CERN
- Studied various methods for cutting background from signal to increase the power of statistical tests used to search for physics beyond the standard model
- Used C++ and ROOT software for data analysis and data visualization
- Successfully quantified the contribution of misidentified background events in our signal samples with simulated data

Skills

- Highly proficient in mathematics, likelihood and hypothesis testing, and statistical inference
- 5+ years of experience in Python
- 5 years using scientific computing libraries such as NumPy, SciPy, Healpy, and Pandas
- Proficient with Tensorflow and implementing deep neural networks and recurrent neural networks for regression, classification, and time series analyses
- Working knowledge of SQL and relational databases