Shivangi Prasad

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Education

University of Illinois, Urbana-Champaign August 2012-present
Ph.D, Nuclear physics. GPA 3.83/4.00 Expected graduation: February 2020

Indian Institute of Technology, Kharagpur August 2007- July 2012
B.Sc & M.Sc dual degree, Physics, GPA 8.53/10.00
Institute Silver medal & Physics department Gold medal recipient

Relevant Courses

- Applied Machine learning in Python
- Mathematical Physics I & II
- Introduction to Statistics
- Data visualization
- How Google does Machine Learning
- Launching into Machine Learning

Research Experience

University of Illinois, Urbana-Champaign *Research Assistant* August 2013-present
- Working on dissertation on a FermiLab experiment, SeaQuest, a collaboration of 50 members from 17 institutions and 3 countries.
- Performed analysis on large-scale data set using MySQL, CERN-ROOT (C++) and FORTRAN.
- Monitored the experiment by taking evening and night shifts to ensure smooth data-taking.
- Managed and updated Monte Carlo C++ simulation code for the collaboration.
- Improved the simulation significantly which led to 40% enhancement in agreement between data and simulation.
- Presented in American Physics Society conference and Gordon Research Conference (invited talk).

University of Massachusetts, Dartmouth *Research intern* June 2011-August 2011
- Analyzed and tested models to understand the hydrodynamics of astrophysical systems (giant molecular clouds) using FORTRAN 90.
- Contribution acknowledged in publication.

Raman Research Institute, Bangalore *Research intern* May 2010 -July 2010
- Used MATLAB to reproduce published results by lead researchers in astrophysics.
- Highlighted the assumptions and subtleties of that research to the group.

Leadership Experience

University of Illinois, Urbana-Champaign *Teaching Assistant* August 2012 – July 2014
- Assisted in teaching undergraduate courses with 90 students.
- Led weekly laboratory and discussion classes.
- Supervised students with weekly home works and graded exam.
- Selected in the list of excellent TA's in Fall 2012 and Spring 2013.

Technical Skills

- Proficient in Linux OS.
- Proficient in MySQL, CERN-ROOT, FORTRAN, LaTex.
- Intermediate level expertise in Python, C++, Git, MatLab, Gephi.

Awards/Prizes

- Felix T Adler fellowship (2017) : Outstanding graduate student in nuclear physics.
- Institute silver medal & department gold medal (2012) : Securing highest GPA at the end of 10th semester and best student in laboratory practices and project work.
- PuzzleBang (2018) : Team won 3rd prize in university-wide puzzle contest conducted over a week.

Talks & poster presentations

- Prasad S. (on behalf of collaboration) , *"Probing the parton structure in nucleon and nuclei at SeaQuest"*, Invited talk at Gordon at Gordon Research Conference, Holderness, New Hampshire, Aug 2018.
- Prasad S. and Peng J. P., *"Extraction of* $\bar{u}(x)+\bar{d}(x)$ *from p+d Drell-Yan measurement at SeaQuest "*, poster in National Science Foundation review meeting, Urbana-Champaign, Illinois, Jan 2018.
- Prasad S. and Peng J. P., *"Dark Photon Search with Drell-Yan-Like Process"*, talk at APS (Division of Nuclear Physics), Santa Fe, New Mexico, Oct 2015.
- Prasad S. and Peng J. P., *"Dark photon search at SeaQuest"*, poster in National Science Foundation review meeting, Urbana-Champaign, Illinois, Jan 2015.

Publications

- SeaQuest Collaboration, *"The SeaQuest spectrometer at Fermilab"*, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment (930) 49-63 http://doi.org/10.1016/j.nima.2019.03.039