Krishna Soni

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Education

Tufts University
B.A. Physics, Minor in Computer Science
Physics GPA – 3.4

Experience

Undergraduate Electro-Optics Engineer, Draper Laboratory
Cambridge, MA — June 2013 – May 2014

- Conducted senior thesis project on improvements made to algorithm that dynamically calculates scale factor in the Zero-Force Accelerometer
- Developed simulations in Matlab/Simulink, and Mathematica to support theoretical model that seeks to account for and improve scale factor linearity to achieve strategic grade performance requirements
- Conducted performance testing to account for bias stability, scale factor linearity, and temperature drift to further verify results based on theoretical model. Results showed improvements in scale factor linearity of over three orders of magnitude
- Thesis received award of High Honors by Tufts University

Assistant Researcher, Tufts University
Medford, MA — May 2012 – December 2013

- Optimized software for conducting research in High Energy Physics observing new particle states for B-mesons
- Developed interfaces in C++, Python, and ROOT to compare simulated Monte Carlo data with results obtained from CERN in order to observe new particle states

Assistant Researcher, Tufts University
Medford, MA — June – April 2012

- Worked in surface physics research on molecule-metal interactions between crystals of Copper and Iron in Ultra-High Vacuum
- Observed metallic quantum wells using probing of carbon monoxide and infrared vibrational spectroscopy to determine surface quality dependence and absorption properties of thin films of Copper and Iron

Coursework

Physics — Classical Mechanics, Electricity and Magnetism, Quantum Theory, Biological Physics, Thermal Physics, Experimental Physics, Optics and Wave Motion
Computer Science — Data Structures in C++, Algorithms, Abstract Syntax, Type Systems, Web Programming in Java

Skills

C++, ROOT, LINUX, Python, Mathematica, MATLAB/Simulink