ROSHNI NAVEEN PATIL

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EDUCATION

Stony Brook University (SBU), Stony Brook, NY
Master of Arts, Physics December 2020
Cumulative GPA: 3.58

University of California, Los Angeles (UCLA), Los Angeles, CA
Bachelor of Science, Physics June 2018
Cumulative GPA: 3.526, Major GPA: 3.531, Dean's Honors List, Departmental Honors.

SKILLS

Laboratory: Clean room experience, photolithography, metal deposition, electronics, soldering.
Hardware: Oscilloscopes, function generators, lock-in amplifiers, Hall probes gaussmeters, motor controllers and linear stages.
Computer: Microsoft Office suite, SolidWorks, Java, LabVIEW, Mathematica, MATLAB, Python, LaTeX, PathWave Advanced Design System, Allegro PCB Editor, OrCAD Capture.

WORK/RESEARCH EXPERIENCE

North Atlantic Industries, Inc.

- **Layout Engineer 1** January 2021-Present
  - Schematic capture, PCB layout, and enhancing in-house board simulation capabilities.
  - Responsibilities focus on board level PI/SI simulations with an emphasis on HS routing simulations, capacitor optimization, and DDR evaluation.
- **Electrical Engineering Intern** July 2020- October 2020

Stony Brook University, Department of Physics and Astronomy June 2019 - Present
Graduate Research Assistant

- Master's Thesis focused on a permanent magnet chicane design to compress an electron bunch for plasma wakefield experiments at the Accelerator Test Facility at Brookhaven National Laboratory.
  - Design was optimized through simulations run on ELEGANT to maximize electron beam compression.
  - Fields of the permanent magnets were characterized to provide a benchmark for the actual compression capabilities of the chicane.

UCLA, Department of Physics and Astronomy February 2017-July 2018
Undergraduate Research Assistant

- Nanofabricated 2-dimensional thermoelectric coolers for *in situ* transmission electron microscopy (TEM) experiments.
- Involved projects included measuring the properties of 2D thermoelectric coolers and imaging the intercalation of lithium into multi-layer graphene during charging and discharging.

UCLA, Department of Physics and Astronomy November 2015-April 2017
Undergraduate Research Assistant

- Created CAD model on SolidWorks of magnetic devices for X-ray free electron experiments (X-FEL).
- Programmed computer simulation to determine arrangement of magnets in a magnetic focusing devices for X-FEL.

TEACHING EXPERIENCE

Stony Brook University, Department of Physics and Astronomy August 2018 – May 2019
Graduate Teaching Assistant

- Instructed laboratory experiments, graded exams and reports for undergraduate courses: Physics 300 (Waves and Optics) and Physics 335 (Electronics).

LEADERSHIP EXPERIENCE

SBU Graduate Women in Science and Engineering (GWiSE) August 2016-December 2020

- Event Coordinator

SBU Physics Friday Afternoon Seminar Organizer August 2018-August 2019

APS Conference for Undergraduate Women in Physics at UCLA August 2016-January 2017

- Local Organizing Committee Member

Undergraduate Astronomical Society September 2015-June 2017

- External Vice President, President, Secretary, Social Chair

VOLUNTEER EXPERIENCE

UCLA Exploring Your Universe November 2014-2017

- Volunteer, Department Liaison

University of California, Los Angeles Center for Accessible Learning January 2015-December 2016

- Note Taker

AWARDS & SCHOLARSHIPS

Undergraduate Research Scholars Program, UCLA September 2017-June 2018
Clare Boothe Luce Research Scholars Program, UCLA January 2016-June 2017