

# Benjamin Nussbaum

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## Education

**University of Rochester (UR)**      **Rochester, NY**      **2017 - 2021 (Expected)**

*B. S. Optics, B. A. Physics and Astronomy; Minors in Computer Science and Mathematics*

GPA: 3.90–Dean’s List

### Awards and Recognitions:

★ *Dean’s Citation for Broadening Participation in Research*

★ *Xerox Award for Innovation and Technology*

**Highlighted Courses:** Electromagnetic Theory · Quantum Mechanics of Physical Systems  
Quantum/Nano Optics Lab. (Graduate level) · Optical System Layout/Analysis · Artificial Intelligence

## Research Experience

**Research Assistant**    **Vamivakas Group**    **The Institute of Optics**    **Summer 2019-Present**

Summer 2019 Project: “Investigating Image Quality by Increasing Illumination Coherence”.

Short abstract: Spatially filtering a partially coherent source is shown to increase the coherence area.

## Leadership

**Vice-President**      **University of Rochester OSA (The Optical Society)**      **2019-2020**

General club management · skilled group leadership · professional development · community outreach  
Develop engagement between students of differing class years within the department and with students in other physics/engineering departments via social events from game nights to the annual Photon Cup.

**Workshop Leader**      **The Institute of Optics**      **University of Rochester**      **Fall 2019**

Lead weekly workshops of a small group of students in Prof. Julie Bentley’s Geometrical Optics course.  
Facilitate work on solving problems extending important class topics and ideas.

**Photon Camp Counselor**    **The Institute of Optics**    **University of Rochester**    **Summer 2019**

Guided high school students through various labs/experiments and taught them about optics.

Supported a small team in the completion of a capstone project and poster presentation.

Provided mentorship and insight via answers to questions about my college experience.

## Technical/Computer Skills

Fast learner and long-time programmer with experience in:

Java, MATLAB, Python, Mathematica, JavaScript, Igor Pro, Logger Pro, PASCO Capstone™,  
Zemax, C#, Web Application Development – ASP.NET Core & Entity Framework, Git, vim, L<sup>A</sup>T<sub>E</sub>X

## Campus Activities

**Professional Development Committee**      **UR Society of Physics Students**      **2018-Present**

Support committee chair in planning, organizing, and running events geared toward professional development of students interested in Physics and Astronomy, e.g., graduate student/faculty research panels, technology workshops, REU/summer program information sessions, and Ask Seniors Anything.