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Education

University of Rochester, Rochester, NY

Bachelor of Science in Optical Engineering
GPA: 3.35/4.0

Expected May 2021

Selected Experience

Optical Design Intern, Texas Instruments, Dallas, TX

May 2020 - August 2020

Principal designer for illumination and projection subassemblies in preparation for new DMD launch. Consulted with customer, system engineers, and mechanical engineers throughout the design process. Took the project from inception to RTM. Design published by TI.

Optical Scientist Intern, ChemImage Corporation, Pittsburgh, PA

May 2019 - August 2019

Designed, tested, and validated experimental hyperspectral imaging systems for life science applications. Performed data analysis and characterization for supervised ML models.

Undergraduate Teaching Assistant, The Institute of Optics, Rochester, NY

August 2019 - Present

Head TA for Matlab for Optics II (OPT 212) Fall 2020; TA for Geometric Optics (OPT 241) Fall 2020; TA for Matlab for Optics (OPT 211) Spring 2020; TA for Geometric Optics (OPT 241) Fall 2019

Selected Optics Coursework and Projects

Lens Design*

Optical Interference Coatings*

Optical Fabrication and Testing

Optical System Layout and Analysis

Applied Statistics

(*) indicates graduate course

Automotive AR HUD Feasibility Design

Performed a feasibility study detailing efforts to design an AR HUD with a single freeform surface. Techniques of non-symmetric, off-axis, reflective systems were conducted within CodeV. Multiple design forms were presented and compared with current designs in literature.

Fluorimetry Collection Objective Subassembly

Designed a spectrometer objective to meet a client's specification demands. Performed a photon budget analysis and evaluated various design forms. Proposed final design after reviewing specifications and manufacturing constraints. Design and optimization completed in CodeV.

Grating Fiber Demultiplexer Design

Designed a biomedical spectrometer using reflective gratings, catalog lenses, and stock linear detectors in Zemax.

Campus Leadership, Activities, and Awards

Sigma Nu Fraternity - Secretary/Publicity/Philanthropy Chairman

May 2018-Present

Fluor Corporation Scholar

August 2020

Russell A. Peck Theatre Prize

May 2019

Sigma Nu Fraternity - 6th Annual Battle of the Bands Charity Concert - Team Leader/Creative Director

Spring 2019

Eagle Scout, Boy Scouts of America

October 2016

Research Presentations

- **Briggs, A.**; Foley, E.; Nussbaum, B. "Group Creativity: Less Than the Sum of its Parts." Presented at the Fall 2019 CETL Research Symposium, Rochester, NY, December 6, 2019.

Skills

- Excellence in the design and analysis of optical systems with Zemax and CodeV
- Fluent in visualization and data analysis with MATLAB and R
- Excellent in interpretation of 2D/3D CAD drawings and drafting in Vectorworks
- Experience in optical metrology instrumentation and optical fabrication
- Effective hands on problem solving and analytical skills, both independently and as a team
- Excellent oral and written skills as demonstrated in technical settings
- Proficient with MS Office, MS Excel, MS Powerpoint, and LaTeX