

Brugger Anderson

Worcester, MA 01604

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(845) 216-5046

Laser Engineer. Educational background in Physics & Astronomy.

Willing to relocate: Anywhere

Authorized to work in the US for any employer

Work Experience

Laser Engineer

IPG Photonics Corporation - Oxford, MA

September 2020 to Present

Laser Engineer

Photonics Industries International Inc - Ronkonkoma, NY

November 2017 to August 2020

- Contributed to the optical design of solid-state, picosecond pulse lasers (UV, Green, IR).
- Characterized builds of new products and helped transition these designs to production
- Trained new employees and assisted laser technicians with problems encountered during the laser build process.
- Investigated and documented the cause of failure in products, assisting in the finding of a solution, and implemented these into existing laser builds.

Quality Assurance Analyst

USIC, LLC - Hauppauge, NY

November 2016 to November 2017

- Developed Office 365 Add-ins to simplify tasks within Microsoft Word and Excel.
- Audited videos recorded by underground utility locators to ensure locations were properly documented in order to protect the gas/water/electrical infrastructure from potential damage.
- Researched maps provided by National Grid to create field packets of the underground utilities at specific work locations.

Customer Service/Grocery Team Member

Whole Foods Market - Lake Grove, NY

July 2015 to September 2016

- Provided customer service throughout the store and maintained inventory of the grocery stock.
- Facilitated payment transactions and trained new employees.

Research Assistant

Stony Brook University - Stony Brook, NY

August 2013 to December 2013

- Assisted faculty in the reduction of data from the Hubble Space Telescope. (See Undergraduate Research)

- Produced a written manual, detailing the computational process used in the research for future use.

Sales Representative, Office Assistant

Armstrong Moving & Storage - Brewster, NY

June 2012 to August 2013

- Contacted clients, to schedule daily appointments for on-site moving estimates in the NY/CT region.
- Assisted in general office duties and provided IT Support to the local office network.

Education

B.S. in Physics and Astronomy

Stony Brook University

May 2016

Skills

- C
- C#
- Python
- Javascript
- SQL
- IDL
- Fortran
- LaTeX
- Visual Studio
- Spss
- .NET
- AWS

Additional Information

RESEARCH/EXPERIMENTAL EXPERIENCE

1) Astronomical Image Reduction:

Produced a high resolution mosaic image of the galaxy, M51 at various wavelengths using raw Hubble images and python image reduction software (PyRAF). Utilizing these images at different wavelengths, star forming regions could be exposed through clouds of interstellar dust.

2) Stellar Evolution:

Simulated early star formation under varying initial conditions, using astronomical software (MESA). The simulated results were used to update and refine archival data that had become less reliable with age.

3) Spectroscopy:

Calculated the abundance of chemicals in the Orion Nebula by analyzing the spectral signature emitted by the regions interstellar gas.

4) Exoplanet Photometry:

Measured the transit of exoplanet, Qatar-1b as it passed in front of its host star. Using photometry, the radius of the planet was calculated to determine its size.

5) Solar Interferometry:

Using a radio interferometer, the diameter of the sun was measured by performing a Fourier analysis on signal data collected at varying wavelengths.

RELEVANT COURSES

Physics:

Quantum Mechanics, Electronics, Waves & Optics, Thermodynamics, Electromagnetic Theory, Newtonian Mechanics

Mathematics:

Differential Equations, Probability & Statistics, Data Analysis, Linear Algebra, Graph Theory, Combinatorics

Astronomy:

Observational Astronomy, Cosmology, Galactic Astronomy, Stars & Radiation, Planetary Science