Tommy Swimmer

928-607-0201 | tommyswimmer@gmail.com | linkedin.com/in/tommyswimmer | github.com/tommy-swimmer

Education

Fort Lewis College — Durango, CO
Bachelor of Science in Engineering — *January 2018 – August 2021*

Coconino Community College — Flagstaff, AZ
Associate of Applied Science in Environmental Technology — *August 2016 – December 2017*

Experience

Engineer-in-Training I — Durango, CO
Colorado Department of Transportation — *September 2022 – Present*

- Assists Local Agency Professional Engineer in all aspects of Project Development for Local Agency Colorado Department of Transportation Projects.

Associate Photovoltaic System Designer — Remote
Sunrun — *July 2021 – August 2022*

- Used AutoCAD, Salesforce, and Microsoft Excel to determine photovoltaic system design, from module layout to electrical interconnections
- Designs resulted in nearly one megawatt of direct current energy installed
- Consistently performed at under 2% of "avoidable errors" tagged within completed projects

Research Assistant — Durango, CO
Fort Lewis College — *February 2020 – August 2020*

- Utilized spectroscopy, microscopy, and machine learning techniques to classify *E. coli* bacterial isolates
- Optimized bacteria characterization process time by 85%
- Created a fluorescence microscope to classify micro-fluidic droplets
- Mentored two students in subjects related to geometrical optics and laboratory safety protocols

Research Assistant — Tucson, AZ
University of Arizona — *June 2019 – August 2019*

- Assigned to the holography lab within the College of Optical Sciences, and applied optical knowledge under a wide range of experiments, from the creation of holographic lenses to the utilization of holographic optical elements (HOEs) for LiDAR applications
- Created an optical design to characterize volume holograms which resulted in an exposure measured at 43% diffraction efficiency, the highest recorded in the holography lab to-date.
- Demonstrated an ability to induce polymerization by successfully creating over 50 volume holograms to be tested
- Maintained safety procedures and high awareness while operating Class 4 lasers outputting a maximum of 8 watts of energy.

Research Assistant — Durango, CO
Fort Lewis College — *August 2018 – December 2019*

- Maintained safe design practices of ballistic imaging experiments with a Class 4 femto-second pulsed laser system
- Created a program to control a motorized translation stage used for ballistic photon imaging with an optical Kerr gate within 300 nanometer precision
- Collected flow analysis data using Particle Image Velocimetry via Optical Time-Sectioning (PIVOTS) of water seeded with polystyrene beads
- Created a 4f optical correlator to demonstrate principles of Fourier Optics to a class

Retail Sales Agent — Flagstaff, AZ
Suddenlink Communications — *July 2015 – December 2017*

- Addressed all customer service issues regarding phone, internet, and cable television products
- Established empathetic interactions in order to achieve customer satisfaction
- Travelled 188 miles at least 3 days per week to assist Payson office location for several months
- Obtained mastery of the customer relationship management software to reduce customer waiting time

Projects

Solar Data Collector | *Python* December 2020 – April 2021

- Created a program that can determine altitude, azimuth, and irradiance from the Sun given a set of coordinates and date

Metallic Testing of Specimens | *MATLAB* April 2020

- Analyzed material properties of annealed, quenched, and tempered steel

Exposure Schedule for the PQ/PMMA Holographic Medium | *MATLAB* June 2019 – August 2019

- Created an optical design to characterize volume holograms for diffraction efficiency

Photovoltaic System Design | *PV Watts, Google Project Sunroof* January 2017 – May 2017

- Determined solar array size and layout using utility bill data and residence location

Skills

Technical: AutoCAD, Solidworks, Microsoft Excel, Abaqus FEA, Soldering, Carpentry
Languages: MATLAB, Python, LaTeX, C, EES, R
Developer Tools: Git, VS Code, Google Colab, Rstudio, Arduino IDE, Emacs
Libraries: pandas, NumPy, Matplotlib, tidyr, ggplot, pysolar, BeautifulSoup