

Experience

Carnegie Mellon - Machine Learning Department | Research Programmer | Pittsburgh, PA.

June 2022 - Present

- Technical staff with the Delphi group, a research group researching machine learning methodologies to predict epidemics including Covid-19, Flu, and Dengue Fever
 - Main job responsibility is focused on maintenance, improvement, and innovation for COVIDcast, an open-source software designed to help researchers focused on epidemiological forecasting
- Data cleaning and quality: Led effort to standardize data quality methodologies across Delphi research group
 - Leading ideation and implementation of fault-record keeping system and methodology
 - Assist with Python implementation of novel time-series anomaly detection algorithm for COVID signals
 - Responsible party for organizing and reporting on data quality team Kanban board in Asana
 - Works closely with technical management to define data quality project scope and timeline
- Stakeholder communication and collaboration
 - Operate as the first point of contact with upstream data partners for all Covid-19 data pipelines
 - Work with Delphi product managers to standardize novel pipeline development process
- Practice core principles of collaborative software development such as version control, scrum, code review, unit and integration testing and continuous integration

Delaware County Racial Equity Database Project | Founder | Delaware County, PA.

Dec 2019 – May 2022

- Founded initiative to create racial equity indicator database for Delaware County non-profit organizations
 - Work directly with the Community Foundation for Delaware County as main community partner
 - Coordinate resources between the Swarthmore Lang Center and the Foundation
- Indicator Selection: Selected over fifty unique indicators spanning health, education, and housing
 - Hosted a community roundtable discussion with over forty Foundation grantees
 - Sourced indicator data from ACS, HUD, Census Bureau, and county courts
- Data Visualization: Use Tableau and Python to produce compelling data visualizations for end-users
- Sustainability and Continuity: Work to ensure sustainability of the database after my graduation
 - Collaborated with Data access firm PolicyMap to ensure sustainability of the database
 - Collaborated with CASA Youth services on Child database project to ensure mutual success

PeaceTech Labs | Special Projects Intern | Washington D.C.

May 2020 – Dec 2020

- Implemented preliminary plan for a global database centered around COVID-19 related violence
 - Facilitated working relationship between Georgia Institute of Technology, PeaceTech Lab, and Digital Power, a data consultancy firm in the Netherlands.
 - Wrote grant proposal for the Data.org Inclusive Growth and Recovery Challenge
 - Conducted initial data visualizations from primary data set using Python Matplotlib and Excel
- Utilized web scraping software to pull over 5 million mentions of COVID-19 violence from social media
 - Used google BigQuery to clean imported dataset to prepare for NLP analysis
- Oversaw conversion of 12 multilingual hate speech lexicons into digestible csv format for adaptable API
- Assisted with the design of an online classroom for instruction around hate speech

Swarthmore Admissions | Senior Admissions fellow | Swarthmore, PA

Aug 2021 – Dec 2021

- Selected by senior admissions staff to be one of twelve senior admissions fellows
- Interviewed prospective applicants to Swarthmore and provide evaluative report
 - Conducted six 30-minute interviews every week with prospective applicants
 - Provided comprehensive evaluative report to admissions deans for each candidate
- Worked directly with senior admissions staff on admissions interviewing techniques and reporting

Swarthmore Admissions | Head Tour Guide | Swarthmore, PA

May 2019 – May 2022

- Managed a team of 40+ student tour guides to facilitate all in-person and virtual visitor experiences
 - Organized weekly guide schedules for 8 virtual and over 20 in-person tours per week
 - Coordinated with Admissions deans on tour guide attendance and future planning
- Planned and led comprehensive tour guide trainings around storytelling and academic diversity
 - Created initial trainings plans for new and returning guides
 - Organized monthly trainings with various administrative or faculty offices, including Public Safety, Title IX, and Engineering Department
- Helped adapt the admissions experience throughout the pandemic to a virtual experience
 - Worked with Admissions Deans to design virtual tour programming over Zoom
 - Organized virtual tour schedule and accessibility plan
- Interviewed and hired all new tour guides and oversee transition periods
 - Created 3-stage interview process, consisting of written applications, group, and individual interviews
 - Evaluated individual candidates in both group and individual setting
 - Selected and trained new Head Tour guide to facilitate transition after my graduation
- Gave weekly in-person admissions tours to campus visitors

Peace and Conflict Studies Department | Research Assistant | Swarthmore, PA

Aug 2021 – Dec 2021

- Conducted research for the Delco Homicide Database, vetting additional cases
- Re-designed three google sites for Prof. Lee Smithey
- Organize virtual unveiling of the Delaware County Gun Violence Database
 - Worked with the Swarthmore communications office to draft a press release for unveiling

Design F.C. | Director | Chester, PA

Oct 2018 – Jan 2021

- Directed after-school enrichment program that implements design principles through soccer
 - Developed weekly curriculum and facilitate the execution of a year-long plan
 - Worked with Chester Upland Youth Soccer to ensure financial support and collaboration
- Volunteered weekly in an after-school enrichment setting teaching design principles to 5th and 6th graders
- Facilitated adaptation of after-school programming for virtual environment during the pandemic
 - Adapted the curriculum to a zoom setting, catering for students needs and limitations
- Design F.C. was nominated as the Philadelphia Union's Community MVP in 2019 and has since had collaborations with Los Angeles Football Club and several other MLS affiliated organizations

Community Involvement

Fuel Our Heroes Denver | Coordinator | Denver, CO

March 2020 – July 2020

- Raised \$12,000 for Denver Children's hospital to fund PPE purchases and support frontline workers
- Coordinated citywide fundraising campaign across social media and personal channels
 - Worked with Colorado Children's Hospital to create fundraising campaign
- Formed and organized fundraising team to facilitate outreach and fundraising

Education

Swarthmore College, Swarthmore, PA

May 2022

- B.S. in Engineering and B.A. in Peace and Conflict Studies

Denver East High School, Denver, CO

May 2018

Relevant Coursework

Computer Vision | Engineering Department

Jan 2021 – May 2021

- Applied mathematical theory to understand computer interactions with the real world
- Utilized deep learning package Keras for application in image classification algorithms
- **Final project:** Key point detection and image stitching using ORB and RANSAC algorithms

Numerical Methods | Engineering Department

Sep 2020 – Dec 2020

- Utilized Python and MATLAB to understand how numerical problems are solved by computers
- **Final Project:** Used GDAL and Python to create a food insecurity predictor based on satellite imagery
 - Algorithms used: Cubic Spline interpolation for rainfall model, non-linear least squares regression for the vegetation index model

Gun Violence Prevention | Peace and Conflict Studies Program

Jan 2021

- Studied intervention, nonviolent resolutions, and conducted research focused on reducing gun violence
- Researched specific cases for the Delaware County Homicide Database
- Utilized WordPress and frontend development languages for database web design focused on accessibility

Engineering Design: Capstone Project | Engineering Department

Aug 2021 – May 2022

- Year-long project creating a bicycle-mounted cyclist safety and directional unit
- Employ LIDAR and microcontroller technology to detect cars approaching cyclists from the rear
- Will use Google Maps API and Bluetooth to create a heads-up directional display

Additional Coursework: Differential Equations, Linear Algebra, Multivariable Calculus, Operations research, Embedded Systems, Stochastic Processes, Polling and Public Opinion, Statistics

Leadership and Involvements

Center for Civic and Social Responsibility | Lang Opportunity Scholar | Swarthmore, PA

Dec 2019 - Present

- Selected by committee into the Lang Opportunity Scholar cohort of 2022
- Awarded \$10,000 grant for project oriented toward social innovation with a focus on technology
- Attend regular events for scholar learning, including topics on systems thinking and inclusive design

Swarthmore Varsity Soccer | Athlete | Swarthmore, PA.

Aug 2018 – Aug 2021

- Committed 20+ hours per week to practice, games, and other team related activities
- Student leader for team fundraising, led efforts to raise over \$20,000 for international trip
 - Organized schedules for youth futsal team referees as fundraising mechanism
- Participated in team building and leadership meetings

Skills, Awards, and Interests

Skills:

- Technical problem-solving, using quantitative methods to solve real-world problems
- Programming languages including Python, MATLAB, SQL, HTML, CSS, and AMPL
- Project management, including organization skills for both small teams and large organizations

Interests: Expert Alpine Skier, Baking Enthusiast, Accomplished Unicyclist