Ross Fischer

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Personal ePortfolio: www.ross.thefischers.me (GitHub repo available)

Education

Baccalaureate of Science in Mechanical Engineering, Magna Cum Laude **May 2018**
Conferred by: University of Colorado, Boulder

- Cumulative GPA: 3.94
- Outstanding Graduate for International Engagement by the College of Engineering

Certificates

- Beginning C++ Programming (Udemy) (~3.5 mo @ 10hrs/wk) **Antic. Sep 2023**
- SQL Programming Fundamentals (LinkedIn Learning) (~1.5 wk @ 10hrs/wk) **Apr 2023**

Full-Time Experience

Development Engineer & Data Specialist, Spirit Engineering, Inc. **Jul 2021 – Jan 2023**

- Oversaw test-cell operations for prototype aviation engine including:
  - Test design & operation, data pipeline management, documentation, and result reporting
- Wrote Python Script to automate .tdms/.hdf5/.xls data conversion, reduce processing time
- Wrote Python program (with GUI) using OOP approach to control hardware via PID feedback loops
- Managed data pipeline and drawing control workflows to ensure efficient use of team resources
- Processed 20+ high-frequency data channels collected from National Instruments DAQ modules
- Analyzed and visualized data and reported to development teams
- Used Python to simulate torsional and thermodynamic responses to advance engine development
- Bridged theory with practical implementation for design, testing, and production of prototype engine
- Performed quality assessment on received parts using inspection tools and statistical inference to determine pass/fail rates
- Used CAD to design aerospace parts focused on manufacturability (PTC Creo, and Fusion 360)
- Performed basic Finite Element Analysis using Fusion 360
- Prepared and reviewed engineering drawings and GD&T according to ASME Y14.5

United States Peace Corps, Tanzania **Jul 2018 – Mar 2020**

Project Manager, Namajani Village, Mtwara

- Wrote and implemented 3 USAID grants totaling over $15,000:
  - Borehole drilling and water pump installation on school campus
  - Distribution and education of menstrual pad kits to female students at Namajani Day S.S.
  - Implementing 3-day regional science conference for students across Mtwara
- Prepared progress reports and long-term observation plans for all projects
- Used WordPress to developed website to host committee and volunteer resources

Physics Teacher, Namajani Day Secondary School

- Taught high-school level Physics in Swahili to over 350 students following national syllabi
- Initiated access to Junior and Senior level physics classes at Namajani Day SS

Research Assistant – Intl. Arctic Research Center **May 2017 – Aug 2017**
Dr. John Walsh, Chief Scientist

- Authored, *"Regional Climate Model Simulation of Surface Moisture Flux Variations in Northern Terrestrial Regions",* Atmospheric and Climate Sciences (ACS), presented at AGU 2017
- Used Python to statistically analyze observational and climate model output data
- Validated climate models using in-situ observational data and statistical methods
- Processed land-based remote sensing data from radiative flux tower sites
- Provided foundation for funding to be acquired for studies to be performed on climate models

Computer Technician - Colorado Mesa University (part-time during school) **Aug 2013 – Dec 2015**

- Utilized Linux to remotely deploy software, licenses, and upgrades
- Managed asset tracking system and documented asset changes and deployments
- Provided technical support and resolved problems for 10,000+ students and 350+ faculty
- Troubleshot system errors within University's various management software

Part-Time Experience

Research Assistant – Ruth Powell Hutchins Water Center **Aug 2017 – May 2018**
Dr. Gigi Richard, Faculty Director

- Installed and repaired weather/terrestrial field sensors, and collected and organized their data
- Analyzed correlations between spatial-temporal hydrologic variables across Western Colorado
- Combined in-situ measurements with field data to improve irrigation-needs forecasts

Landsat GIS Technician - RiversEdge West **Jan 2017 – May 2017**

- Used GIS software to digitize river bank-lines using remotely sensed Landsat imagery
- Classified bank-line according to vegetation type and soil conditions
- Predicted future bank-line stability using mathematical methods and hydrologic theory

Research Assistant – Ruth Powell Hutchins Water Center **May 2016 – Aug 2016**
Hannah Holm, Director

- Created an interactive map for public use visualizing groundwater and stream data covering a 10,000 sq. mile watershed in Colorado
- Compiled and organized water-needs related articles and research for public access in order to support the Upper Colorado River Basin Resource Guide

Skills & Misc.

- MATLAB, Python, SQL, C++, Linux hobbyist
- GitHub, Jekyll, HTML
- Scientific & Engineering Data Analysis
- Creo Parametric, Solidworks, Fusion 360
- Machining & Manufacturing Processes
- Quality Assessment Processes
- Communication & Teamwork Skills
- International Project Management
  - Fluent in Swahili
- Federal Grant Writing and Implementation
- Engineers Without Borders, CMU Chapter Mentor & PMEL Lead (2020-current)