Ross Fischer

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EDUCATION & CERTIFICATES

(Remote Sensing Focus) Master of Science in Aerospace Eng. *(Evening/Online)*   **Current**
University of Colorado, Boulder   *Boulder, CO*
- Current: (Kalman Filtering) Statistical Estimation of Dynamic Systems, Aerospace Environment

Bachelor of Science in Mechanical Engineering, *(3.9/4.0 GPA)*   **May 2018**
University of Colorado, Boulder   *Boulder, CO*
- Capstone Project: Used MATLAB, FFTs, & signal processing techniques to advise client on feasibility of reducing crankshaft torsional vibrations
- Proposed independent study & received funding to research use of neural networks to predict material properties
- Relevant Courses: Computational Methods (MATLAB), Advanced Statistics, Differential Equations,

Certificates:
- C++ Programming *(Udemy)*   **Nov. 2023**

FULL TIME EXPERIENCE

Spirit Engineering, Inc.   **Jun. 2021 – Jan. 2023**
Data Specialist & Development Engineer   *Grand Jct., CO*
- Led/oversaw efforts for data analysis & simulation, data pipeline management, and software development
  - Automated data processing using Python 3.10, adhering to existing framework
  - Used Python & C++ to create test-cell-hardware control software
  - Analyzed & visualized test data extensively to determine test success and recommend changes
  - Utilized Linux to monitor company network and servers and remotely connect to factory machinery
  - Familiar with Jupyter Notebooks, Coding Style Guides, and Git processes
- Collaborated with contractors and internal teams to organize projects and improve production processes
  - Organized project documentation and technical requirements
  - Defined project timelines and presented updates to executives, contractors, and vendors
  - Managed vendors and orders, and communicated complex information at varying technical levels
  - Streamlined purchasing and inventory processes
  - Formalized part design lifecycle and process improvement techniques
- Contributed to engine testing efforts:
  - Developed frequency-domain and thermal ODE simulations to guide testing
  - Instructed team members on test plan implementation and procedures
  - Contributed additional mechanical engineering skills as needed

International Arctic Research Center   **May 2017 – Aug. 2017**
Data Analyst alongside Chief Scientists, Dr. John Walsh   *Fairbanks, AK*
- Developed repository of analysis scripts for land-based remote sensing data to validate climate models
  - Organized
  - Visualized complex statistical relations of climate data using MATLAB
  - Validated climate models through statistical comparison of output data with in-situ observation
- Authored and published research paper & findings in Journal of ACS (see Publications)
  - Orally presented findings & showcased poster at the American Geophysical Union conference, '17
  - Provided research foundation to for successful funding of future climate model studies

United States Peace Corps   **Jul. 2018 – Mar. 2020**
Project Manager   *Mtwara, Tanzania*
- I learned Swahili in an unfamiliar environment to professionally integrate myself in a new community
- Wrote and implemented federal grant projects through collaboration with local organizations
  - Borehole drilling, water hand pump installation, student conferences, HURU kit distribution
  - Prepared budgets, progress reports, and long-term observation plans for all projects

- o Instructed host-country colleagues on grant implementation plans
- Led initiative to provide upper-level physics courses (and taught) to 350+ secondary level students
- Elected as Cohort's PSIDN representative (Peer Support, Inclusivity, & Diversity Network)
  - o Represented Cohort's concerns to staff and handled sensitive information
  - o Used WordPress to develop internal website to host committee and volunteer resources

PUBLICATIONS & PRESENTATIONS

Regional Climate Model Simulation of Surface Moisture Flux Variations in Northern Terrestrial Regions
Ross Fischer, John E. Walsh, Eugénie S. Euskirchen, and Peter A. Bieniek
Journal of Atmospheric and Climate Sciences (2017), Oral Presentation at the AGU '17
A Partial Solution to Modeling the Anisotropic Material Properties of Fused Deposition Modeling Abs
Ross M. Fischer, Keenan G. Jewkes, Dr. Scott Kessler
JOM by The Minerals, Metals, and Materials Society (TMS) (2015), Oral Presentation at TMS '17

INTERNSHIPS, PART TIME & VOLUNTEERING

Engineers Without Borders (EWB)   **Aug. 2020 – Current**
Volunteer, PMEL Lead (Planning, Monitoring, Evaluation, & Learning)   *Grand Jct., CO*
- Led, mentored, and advised student chapter on EWB requirements, technical designs, and during project trips

Undergraduate Internships
- As a Computer Technician for Colorado Mesa University, I: **Across Aug. 2013 – May 2018**
  - o Used Linux distributions to monitor University networks and remotely troubleshoot computers
  - o Provided technical support and resolved problems for 10,000+ students and 350+ faculty
  - o Troubleshot system errors within University's various management software
- As a Research Assistant for the Colorado Mesa University Water Center, I:
  - o Performed technical field work to support land based remote sensing equipment and their data
  - o Predicted & quantified research parameters using statistical methods
  - o Utilized Python to visualize datasets and compile research articles
- As a GIS Analyst for various organizations, I used GIS software to:
  - o Create & analyze LANDSAT imagery data to quantify research parameters
  - o Create a public interactive map visualizing environmental data
  - o Analyze municipal infrastructure to support development of safe roads and sidewalks

Singletrack Trails   **April. 2020 – December 2020**
Site Supervisor   *Grand Jct., CO*
- After Covid globally-evacuated Peace Corps and companies cut hiring, I spent a covid-friendly season organizing logistics and crew

AWARDS & HONORS

Outstanding Graduate for International Engagement & Magna Cum Laude   **May 2018**
College of Engineering @ University of Colorado, Boulder
Research Experience for Undergraduates (REU)   **May 2017**
National Science Foundation & International Arctic Research Center
CU Boulder Esteemed Scholar Scholarship   **Aug. 2016**
University of Colorado, Boulder
CMU Scholar – Full Ride Scholarship   **Aug. 2013**
Colorado Mesa University