

# Ross Fischer

[fischer95ross@gmail.com](mailto:fischer95ross@gmail.com)

❖ 970-210-0068



ePortfolio  
[www.ross.thefischers.me](http://www.ross.thefischers.me)

---

## EDUCATION & CERTIFICATES

<b>Master of Science in Remote Sensing Focus Area (Aerospace Engineering Sciences)</b> <i>University of Colorado, Boulder</i>	<b>Antic. May 2025</b> <i>Boulder, CO</i>
--	--

<b>Bachelor of Science in Mechanical Engineering, Magna Cum Laude (GPA 3.9/4.0)</b> <i>University of Colorado, Boulder ('17-'18)</i> <i>Transferred from Colorado Mesa University ('13-'16)</i>	<b>May 2018</b> <i>Boulder, CO</i> <i>Grand Jct., CO</i>
---	--

<b>Semester Abroad - Economic &amp; Social Development</b> <i>Thammasat University</i>	<b>Fall, 2016</b> <i>Bangkok, Thailand</i>
---	---

### Certificates:

- |   |                         |
|---|-------------------------|
| • <i>SQL Programming Fundamentals (LinkedIn Learning)</i> | <b>Apr. 2023</b>        |
| • <i>C++ Programming (Udemy)</i>                          | <b>Antic. Sep. 2023</b> |

---

## AWARDS & HONORS

<b>Outstanding Graduate for International Engagement</b> <i>College of Engineering @ University of Colorado, Boulder</i>	<b>May 2018</b>
---	-----------------

<b>Research Experience for Undergraduates (REU)</b> <i>National Science Foundation &amp; International Arctic Research Center</i>	<b>May 2017</b>
--	-----------------

<b>CU Boulder Esteemed Scholar</b> <i>University of Colorado, Boulder</i>	<b>Aug. 2016</b>
--	------------------

<b>CMU Scholar – Full Ride Scholarship</b> <i>Colorado Mesa University</i>	<b>Aug. 2013</b>
---	------------------

---

## WORK EXPERIENCE

<b>Spirit Engineering, Inc.</b> <i>Development Engineer</i>	<b>Jun. 2021 – Jan. 2023</b> <i>Grand Jct., CO</i>
--	---

- Spirit Engineering is developing a market disrupting light-sport-aircraft, in addition to a new aviation engine
- Collaborated with contractors and internal teams to organize aviation engine project
  - Defined project timelines and presented updates to executives, contractors, and vendors
  - Streamlined purchasing and inventory processes by improving software-communication
  - Used Excel and Tableau to manipulate data sets, and create visualization dashboards for test metrics
  - Managed suppliers/vendors and orders, and communicated complex information externally
- Managed and operated engine test-cell and data pipeline
  - Oversaw test cell operations: test design & implementation, result analysis, documentation, maintenance
  - Collected data across 20+ high-speed channels, collected via National Instruments DAQ to analyze data, identify trends, extrapolate, and recommend design changes
  - Performed root-cause failure analysis during engine and component prototype testing
  - Wrote Python program which automated data processing, thus improving testing capacity
  - Designed and implemented tests for prototype engine and analyzed subsequent data with Python
  - Developed program using C++ to control test cell hardware through PID feedback loops
  - Used Python to develop algorithms for thermodynamic and vibration simulations
- Contributed additional engineering skills as needed:
  - Inspected incoming parts using statistical inference to determine pass/fail rates
  - Develop products and parts using CAD for aerospace applications, designed for performance and manufacturability (SOLIDWORKS, PTC Creo, and Fusion 360)
  - Drafted engineering drawings and reviewed GD&T according to ASME Y14.5 using PTC Creo

## United States Peace Corps

Jul. 2018 – Mar. 2020

*Project Manager, Physics Teacher*

*Mtwara, Tanzania*

- In an unfamiliar and harsh environment, I learned the Swahili language in order to integrate myself personally and professionally in a rural African community. Developed accountability within the community to finish projects and act as a role model to students
- Wrote and implemented 3 federal grants by creating & collaborating with community-based teams and orgs.
  - Prepared budgets, progress reports, and long-term observation plans for all projects
  - USAID: Water pump installation via 60-meter borehole and community-based distribution model
  - USAID: Science & History conference for students at 6 different school in the Mtwara region
  - HURU: Distribution of Washable Menstrual Pad Kits to Female Students at Namajani Day SS
- Led initiative to provide access to Junior and Senior level physics classes at Namajani Day SS
  - Taught Physics in Swahili and English to 350+ high-school level students following National Syllabi
- Elected to be PSIDN cohort representative (Peer Support, Inclusivity, & Diversity Network)
  - Handled and communicated sensitive information between volunteers and staff
  - Used WordPress to develop internal website to host committee and volunteer resources

## International Arctic Research Center

May 2017 – Aug. 2017

*(Data Analyst) Research Assistant to Dr. John Walsh, Chief Scientist*

*Fairbanks, AK*

- Authored and published research paper & findings in Journal of ACS (see Publications)
- Orally presented findings & showcased poster at the American Geophysical Union conference, '17
- Developed algorithms and data analysis repository to analyze remote sensing data and climate models
- Visualized complex terrestrial climate data, correlations, and statistical relations using MATLAB and Tableau
- Provided research foundation to for successful funding of future climate model studies
- Validated models using in-situ observational data collected from remote sensing equipment on flux towers

## Misc. Organizations

Aug. 2013 – May 2018

*Research Assistant, GIS Technician, Computer Technician*

*Grand Jct., CO*

- During my undergraduate tenure, I held various technical roles gaining a range of experience:
- As a Research Assistant, I:
  - Performed technical field work to support land based remote sensing equipment and their data
  - Predicted & quantified hydrological parameters using mathematical methods and hydrologic theory
  - Utilized Tableau to compile and visualize hydrological datasets and research articles
- As a GIS Technician, I:
  - Used GIS software to create and analyze remotely sensed LANDSAT imagery
  - Analyzed spatial-temporal data from Western Colorado field sites to investigate effects of elevation-based snowmelt on streamflow and water supply
  - Used ArcGIS and ArcOnline to create public interactive map visualizing hydrological data
  - Used ArcGIS to analyzed municipal infrastructure to support development of safe roads and sidewalks
- Senior Project: Feasibility of using Rotating Pendulum Vibration Absorbers to prevent crankshaft failure
- As a Computer Technician I:
  - Used Linux distributions to remotely deployed software, licenses, and computer updates
  - 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
  - I used MATLAB, Fourier transformations & differential equations to develop a torsional-vibration model of our client's crankshaft to predict the reduction in vibration amplitude from the use of RPVAs

## 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 and while on "peacekeeping" trips

## Singletrack Trails

Apr. 2020 – Jan. 2021

*Site Supervisor*

*Colorado*

- When COVID19 caused Global Peace Corps evacuation, I spent the following season year working a covid-friendly job and supporting local trails

## 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, Oral Presentation at the American Geophysical Union '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), Oral Presentation at TMS Conference*

## ADDL. SKILLS & INTERESTS

---

- **Skills:** Manufacturing Processes, Verbal & Written Communication, Macros & Visual Basic, Swahili
- **Practice With:** Github, Web Development, Lean Mfg, Six Sigma,
- **Interests:** DIY Projects, Mountain Biking, Bike Touring, Traveling, International Engagement, Scuba Diving