Rebecca Risch

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Portfolio: https://rrisch816.github.io/index.html
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Education

Dartmouth College, Hanover, NH **June 2025**
Bachelor of Arts, Major in Mathematical Data Sciences, Minor in Environmental Earth Sciences **GPA 3.72/4.0**
Relevant Coursework: Machine Learning & Statistical Data Analysis, Advanced Data Visualization, Probability & Statistical Inference, Intro to Programming & Computation, Environmental Applications of GIS, Earth Surface Processes & Landforms.
Activities: Sports Analytics Club, Club Ski Racing Team, First Year Outdoor Trip Leader, Hillel Chair for Interfaith Council.

Earth Sciences Department Off Campus Program, Canadian Rockies and the American West **Fall 2023**
Earth Sciences fieldwork program. Practiced experimental methods in glaciology, geochemistry, hydrology, geophysics, and environmental monitoring. Learned and practiced bedrock mapping and carbon sequestration planning, ore deposit mapping, Quaternary surficial processes mapping, and planetary analog mapping with ArcGIS Pro.

The Emery/Weiner School, Houston, TX **June 2021**
Honors/Awards: Winston Churchill Award for Perseverance **GPA 96/100, ACT: 35**

Professional Experience

Dartmouth College Baseball Team, Hanover, NH **February 2024 – Present**
Data Scientist
- Create player performance charts and deliver actionable insights to the coaching staff with Python and R.
- Built interactive, customizable dashboard using D3.js, plotting pitches in the strike zone and displaying player metrics. Version 1 video demo linked here: https://www.youtube.com/watch?v=EEddEZcI-Y4, product improvements in progress.
- Collect data at scrimmages and home games. Consult with coaches on best data collection practices.

United States Geological Survey – New England Water Science Center Augusta, ME **July 2024 – August 2024**
Data Analytics and Visualization Intern
- Modeled potential flood damage in the Charles River Basin using Python. Maintained federal data standards.
- Completed map editing in ArcGIS Pro of the Housatonic River basin flood hazard areas, floodways, cross sections, hydraulic structures, and other critical geospatial aspects on the FEMA RiskMap floodplain mapping project.
- Assisted FEMA fieldwork team with surveying high-water marks from floods in Western Maine.

Flogistix, Oklahoma City, OK **March 2023 – December 2023**
Data Science Intern
- Executed the Exploration and Initial Analysis phases of Predictive Maintenance Project. Developed Machine Learning models to predict and preemptively resolve breakdowns on oil compressor units with vapor recovery tanks. Objective was to increase equipment uptime and reduce Flogistix's labor costs, clients' methane emissions, and lost revenue.
- Wrote Pyspark and SQL scripts based on maintenance work order data to find average part lifespans, thereby identifying currently operating over-aged parts, lifespan trends between operating areas, and most frequently replaced parts.
- Presented findings to executive leadership and engineering teams with ReDash and Databricks dashboards.
- Wrote and pushed to production a PySpark script and Directed Acyclic Graph (DAG).

Dartmouth College Earth Sciences Department, Hanover, NH **June 2022 – March 2023**
Research Assistant- Neukom Scholar
- Sourced satellite imagery of hillslopes in Arctic areas to map out visible water tracks as training data for AI to accelerate research in understanding how thawing permafrost forms water tracks, thereby affecting water runoff levels and chemistry.
- Utilized multiple software systems and coding languages, including Planet, Python, and Google Earth Engine.

Projects

Major Thesis: *New Estimates of Martian Erosion Rates from Crater Obliteration Statistics* **September 2024 – June 2025**

Dartmouth Baseball Dashboard (v1) **May 2024 – November 2024**

Dartmouth Sports Analytics Club: *Rile Them Up: Do MLB Managerial Ejections Affect Game Score?* **December 2024**

Personal Portfolio: **December 2024 – January 2025**
- Building portfolio from scratch using HTML and CSS, hosted with GitHub pages: https://rrisch816.github.io/index.html

Skills & Interests

Technical: Python, SQL, R, D3.js, PySpark, ArcGIS Pro, JMP, Apache Airflow, LaTeX, Adobe PhotoShop, Adobe InDesign
Professional Development: MLB's Take the Field Participant 2024, MIT Sloan Sports Analytics Conference Attendee 2025
Additional Interests: Spanish (Intermediate), Theater and Television Production, Snow Sports, Sailing, Cooking, Paddle Sports