Lucas A. Estrada

EDUCATION

Williams College 2015-December 2019
Bachelor of Arts in Geoscience and Computer Science
Varsity Cross Country and Track
Dean's List Spring 2019

Middlesex School 2011-2015
Science Department Prize in Environmental Science

RELEVANT EXPERIENCE

Scientific Programmer, GEOS-Chem Support Team, Harvard University August 2021-present
Supervised by Dr. Daniel Jacob
- Supporting postdocs and graduate students on research projects requiring technical expertise
- Further developing and improving the capability of running GEOS-Chem and GCHP on the cloud
- Developing structural updates to the model's analysis tools (GCPy) and chemical solver (KPP)
- Providing user support to a vibrant community of users via github issues

Software Engineer, Nevo Technologies 2020-June 2021
- Worked as part of a agile development team on a wide variety of projects
- Developed and deployed applications to the cloud using a variety of AWS services
- Quickly adapted to new technologies, stacks, and development environments
- Worked with high volumes of data implementing Extract, Transfer, and Load processes

Research Intern, Incorporated Research Institutions for Seismology Summer 2019
Supervised by Dr. Kasey Aderhold
- Conducted novel seismic research studying Alaskan sea ice modulations of seismic noise
- Performed data analysis and statistical modeling of seismic data in Matlab and Python
- Wrote scripts that pull data in real time directly from the IRIS Data Center API

Research Assistant, Williams College Summer 2018
Supervised by Dr. Phoebe Cohen
- Studied the microfossil and mercury trends of shales to investigate the End-Devonian mass extinction
- Prepared samples for analysis and recorded detailed notes of results and procedures
- Wrote Python scripts to analyze datasets from the Macrostrat and Paleobio Database API

Crew, Appalachian Mountain Club Cold River Camp - Chatham, NH Summer 2017
- Lived and worked with colleagues in a team-oriented, fast-paced environment
- Maintained all buildings and ground, served on waitstaff, and ensured guest satisfaction

TECHNICAL SKILLS

Programming
Python, Java, TypeScript, Matlab, C/C#/C++, SQL/PSQL, Docker, AWS, Terraform, Linux, shell scripting, Object Oriented Programming, Unit Testing, Version Control (Git), Continuous Integration, Angular, .NET Core, React Native, Xamarin Forms

SERVICE AND LEADERSHIP

Purple Bike Coalition President, Treasurer, Mechanic 2016-2019
- Manage shop budget, train and hire mechanics, organize work schedules

Teaching Assistant - Geoscience 101, Williams College 2019
- Assist 30+ students in labs and answer questions related to lectures and course materials
- Review and grade student labs

Varsity Track Captain, Williams College 2018-2019
- Organize team events, promote positive culture, communicate with coaches

CONFERENCES

American Geophysical Union Conference 2019

- *Characterizing Sea Ice Modulations of Seismic Noise using the Alaskan Transportable Array* https://agu.confex.com/agu/fm19/meetingapp.cgi/Paper/507588

Geological Society of America Conference 2018

- *Mercury and Microfossil Trends During End-Devonian Extinction Events* https://www.researchgate.net/scientific-contributions/Lucas-Estrada-2150491930

PROJECTS

Integrated Methane Inversions Ongoing

Currently working to improve the performance and broaden the accessibility of our Integrated Methane Inversion Workflow. This involves structural updates and updating the workflow for usage on the cloud, where it can be easily run by both the atmospheric chemistry community and industry stakeholders.

Acushnet Artworks 2021

Worked as part of a small development team to implement a logo management web application for the Acushnet Holdings Corporation. This project used Angular for the front end application and .NET Core for the backend. This project was deployed and run with an entirely serverless footprint, using AWS ECS to run a dockerized version of the application. I was heavily involved in setting up the necessary devOps infrastructure and coding both the client-side and server-side applications

IHM Insights 2020

Developed a high-volume, cloud-based medical data ingest and egress system for the Institute for Health Metrics. I worked as one of the sole contributors, handling the ingestion and transformation of Electronic Health Record data from over 50 hospitals into our Postgres database on the cloud. This project involved leveraging a wide variety of AWS services including AWS Glue (Pyspark), Lambda, Step Functions, RDS Aurora, ECS, etc.

J&J JLabs Navigator 2020

Developed a web application for Johnson & Johnson's incubator program (JLABS). Worked on the client-side application to replace their legacy Drupal application with a new Angular version that provides richer interactions and visualizations.