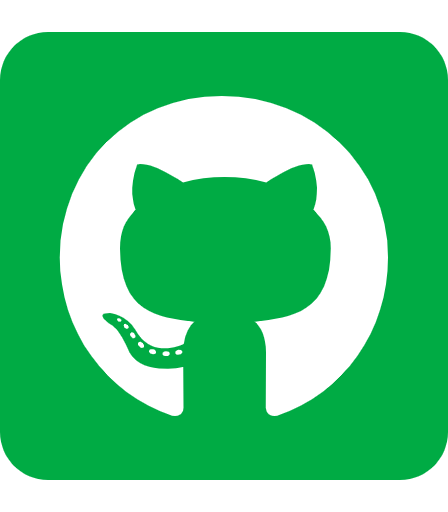
Joel Silverman

Data Scientist

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# SUMMARY STATEMENT

Adaptable and dependable data practitioner seeking a position using machine learning to solve real-world problems in a collaborative environment. Domain knowledge in natural resources, image processing, and geographic information systems.

# TECHNICAL SKILLS

* Python for data visualization, pipelines, prediction, and inference. Libraries include: SciKit-Learn, Pandas, NumPy, TensorFlow, Keras, Beautiful Soup, etc.
* Experience using SQL, Git, R Statistical Software, SAS, ArcGIS, Access, and Excel.
* Platforms: Google Colab, PySpark, AWS EC2, Google BigQuery.
* Interdisciplinary teams, problem solving, and project management.

# PROFESSIONAL EXPERIENCE

## Data Scientist Fellow *- General Assembly, Washington D.C. (Remote)*

November 2021 - March 2022

* Completed 500 hours of training, 6 projects, and 20+ assignments, using Python to explore and analyze data. Utilized a wide variety of machine learning / statistical methods: regressions, classifications, neural networks, PCA, cluster analysis, Bayesian statistics, time series analysis, etc.
* Trained a convolutional neural net to classify food photos on Yelp to improve automated photo sorting and filtering options. Used both from-scratch and transfer-learning methods.
* Used Natural Language Processing to differentiate human forum-based discussion from GPT2 chatbots that were trained to mimic forum-based discussion. Achieved 90% accuracy.
* As a small group project, developed a time-series model that predicted near-term energy demand for Texas energy customers looking for cost savings or to shift more use to renewables.
* As an intro Kaggle hackathon, trained a convolutional neural net to classify 100 species of flowers from images. Used TensorFlow and TPUs on Google Collab for improved performance.

## Resource Specialist *- US Forest Service, Pinecrest, CA*

September 2014 - November 2021

* Established an online permit system for visitors, saving approx. 1000+ staff hours annually.
* Maintained, analyzed, and reported visitor information from a database of 30,000+ records.
* Supervised 4 to 8 staff each year, plus provided oversight to volunteer groups.
* Wrote successful requests for funds and completed all grant projects on time and within budget.
* Helped coordinate management actions across 1/4 million acres of public land.
* Presented to various public, partner, and stakeholder audiences.

## Resource Specialist - *MROSD*, *Los Altos, CA*

July 2010 - July 2014

* Developed study designs: articulating objectives, selecting statistical methods, adapting sampling methods, collecting data, analyzing data, and reporting findings. For example, designed and piloted a grassland monitoring program to measure treatment effects on native vegetation.
* Led agency Science and Conservation Permit Program working with universities and agencies conducting research on MROSD lands. Reviewed 150+ research proposals, assessed potential impacts, wrote conditions, and reviewed technical reports for management implications.
* Created & maintained tabular and geographic records for numerous projects.
* Agency representative in several stakeholder groups and advisory committees to facilitate cooperative land management.

## Fire Ecologist / Lead Fire Effects Monitor - *National Park Service, Springdale, UT*

May 2008 - July 2010

* Led a long-term monitoring program for Zion and Bryce Canyon National Parks, measuring the ability of prescribed fire to achieve certain management objectives such as fuels reduction and retention of native plant diversity. Led data collection, statistical analysis, and reporting to program manager.
* Conducted GIS analysis for the program: calibrated time series thermal band satellite images using zonal statistics, applied normalization equations, generated random stratified samples, and processed GPS data.
* Coordinated with universities and other agencies on several large-scale research projects.
* Presented results, communicated technical advice, and discussed program goals with various public and professional audiences.

# EDUCATION

## Data Science Intensive Certificate - *General Assembly, Washington D.C (Remote)*

* Completed 500 hours of training see Experience section above for details.

## Master’s of Science - *Colorado State University,* Fort Collins, CO

* Thesis: modeled species distributions using remote-sensing data.
* Research Assistantship funded through NASA. Part of an inter-agency team utilizing satellite image products to improve National Park Service land management.
* Spatial Statistics, Statistics (Data Design and Analysis), GIS Analysis.

## Bachelor’s of Arts - *The Evergreen State College,* Olympia, WA

* Human & Cultural Geography, Study Abroad (Central America).
* Plant Biology, Natural Resource Management.

# SELECTED AWARDS

**USFS & NPS Certificates of Appreciation**

**NASA Graduate Fellowship Award (Graduate Research Assistantship with Full Tuition)**

**Colorado State University Student Organization Educational Event Award**

# PERSONAL INTERESTS

**Digital Photography**

**Trail running (completed two trail marathons)**

**Backpacking**