Samuel Hiatt

samhiatt@gmail.com linkedin.com/in/shiatt

Professional Summary

Experienced software engineer with a passion for applying open source technology to better understand the natural world. Over a decade of experience in team and solo development projects, with a track record of innovation and execution in a variety of software engineering roles requiring both technical skill and creative problem-solving, demonstrating expertise in programming languages and concepts including:

- Python
- JavaScript
- Node.js
- Typescript
- Numpy
- Matplotlib
- Pandas
- TensorFlow / Keras
- Mocha / Chai unit testing
- Machine Learning
- Satellite Remote Sensing
- Geographic Information Systems
- Linux System Administration
- Docker
- RESTful web service development
- Agile Development
- Data Visualization
- Amazon Web Services
- Google Cloud
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Professional Experience

Freelance Projects

Charlotte, NC | August 2017 - Present

Machine Learning Engineer — Avian Vocalizations Species Classifier

- Developed a neural network audio signal classifier to infer bird species from recordings of vocalizations.
- Compiled a training dataset from a selection of crowd-sourced recordings provided by xeno-canto.org, and demonstrated the model's ability to learn and infer species.
- Optimized model performance with hyper parameter tuning and validated performance with cross-validation.

Technology Consultant — Hiatt Digital, LLC

- Advised small business digital transformation services, identifying cloud-based strategies to protect clients' on-premises data storage, supporting services backed by Azure, AWS, Google Cloud, and Synology.

Web Development Consultant – TDC Systems

- Developed a serverless content management system with automated deployment to Google Cloud Services, cutting costs while mitigating security risks and improving page speed and search engine optimization.

IBM / The Weather Channel / Weather Underground

San Francisco, CA | September 2013 – April 2017

Senior Software Engineer

- Applied transfer learning to retrain an open source image classification model and infer meteorological conditions from images, providing a novel method for automated validation of current weather conditions.

- Worked on an Agile team of developers and designers to develop real-time map layers and UI components for the Wundermap, a web-based interactive weather map.
- Designed and built internal mapping tools to provide improved visibility into the quality control system supporting a global network of Personal Weather Stations.

NASA ARC / Ecological Forecasting Lab / Univ Corp at Monterey Bay

Moffett Field, CA | July 2007 - August 2013

Geospatial Software Engineer / Web Developer

- Worked with Earth scientists at NASA Ames Research Center on a range of applied science projects, implementing data modeling and analysis pipelines consuming satellite data and generating global insights about ecological processes.
- Designed and developed custom web applications for publishing satellite data products and built mechanisms for efficiently querying large geospatial datasets and generating on-demand visualizations of data trends.
- Worked with project stakeholders ranging from US National Parks land managers to Farmers in the California Central Valley to help them integrate NASA data into their decision making processes.

Utah State University GIS Remote Sensing Lab

Logan, UT | December 2006 - July 2007

Software Engineer

- Implemented data model and near real-time processing pipeline for predicting global land surface phenology (timing of seasons) using remote sensing imagery from NASA satellites. Developed simple web interface for viewing model results.

Education

Utah State University, Quinney College of Natural Resources

Logan, UT | June 2007

Bachelor of Science, Geography

- Computer Science Minor
- Engineering Mathematics Minor
- Geographical Information Science Minor
- Dean's List, College of Natural Resources - 2006, 2007
- Six-month immersive study (geography and computer science) at the University of Costa Rica

Udacity

Online | 2019

Machine Learning Engineer Nanodegree

- Completed several machine learning projects, demonstrating competency in concepts needed to develop, tune, and evaluate artificial neural networks.
- Designed reinforcement learning agents capable of learning solely through interaction with their environment, and demonstrated their ability to learn to control a virtual quadcopter.
- Developed unique data visualizations animating the evolution of a RL agent's neural network as it learns to perform a simple task.

Volunteering

Community Legal Services

East Palo Alto, CA | 2010 – 2013

Interpreter / Translator

- Spanish language interpreter for client interviews and legal clinics.
- Spanish-English translation of personal declarations and legal documents.

Human Rights Center at UC Berkeley

Berkeley, CA | 2015

Technology Fellow

- Developed productivity tools to assist investigators at the International Criminal Court.

Additional

- Placed 1st in division at 2022 Motus Off-Road Triathlon, Myrtle Beach, South Carolina.
- Participated in cross-country paragliding competitions in the U.S., Mexico, and South Korea, earning 2017 Rookie of the Year at the Monarca Open in Valle de Bravo, Mexico.
- Built working glider model of seagull from 3D printer, with radio control of flight surfaces.