

# EMILY Y. SPAHN

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GitHub: [github.com/eyspahn](https://github.com/eyspahn)

*Experienced Data Scientist and Engineer with interests in environmental and geographic data, natural language processing, and using technology for good.*

## EXPERIENCE

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Software Engineer, DroneSeed - 2019 - current

- Lead developer of mission planning software for aerial seeding missions
- Support survey data processing pipelines and services
- Evaluate tech needs and explore new technologies to improve company processes

Research Scientist, Amazon - 2017 - 2019

*Connections / Human Resources*

- Developed machine learning models to detect unexpectedly high or low results in employee satisfaction surveys
- Worked with Product Managers, Product Designers, and Software teams to deploy the model as a feature into existing reporting
- Developed models using HR survey and company data to examine attrition and transfer risks for corporate teams at Amazon

*Fraud and Abuse / Kindle Self-Publishing*

- Analyzed data pertaining to fraud and abuse of the Kindle Unlimited [KU] program
- Developed algorithms to detect abusive activity, preventing fraud on the order of \$100k per month
- Prepared flash reports in support of internal launches

Data Scientist, [ProKarma] (an IT consulting firm) - 2016 - 2017

- Featured project: Leveraged electronic medical records to improve patient and facility outcomes, using Hive, Impala, and python in support of a proof of concept patient risk scoring system; spoke on project at Strata + Hadoop World March 2017
- Researched and prepared proposals for work, presented work to clients and colleagues
- Interviewed candidates for data science positions on behalf of clients

Data Scientist in Residence, Galvanize - Feb to May 2016

- Taught data science concepts to students in a 12-week immersive program
- Wrote unit tests and solutions for student assignments; provided feedback on student work

Construction Hub Project Coordinator, City of Seattle, Department of Transportation - 2014

- Permitted the use of city right-of-ways in construction-dense areas of Seattle

Project Hydrologist [Confluence Environmental Company] - 2013 - 2014

- Analyzed and modeled historic data to inform licensing and permitting
- Created maps and spatial analyses; conducted field work and analyzed/visualized data

Hydraulic Engineer & IT Manager, WEST Consultants, Inc - 2008 to 2013

- Developed simulations of rivers, sediment, contaminants, and weather in support of government and private projects tested emerging hydraulic and hydrologic modeling frameworks analyzed and visualized data using Fortran, GIS and advanced Excel;

Data Analyst, National Ocean Service / NOAA via ARTI (contractor) - 2002 to 2005

- Analyzed US water level and coastal current data for accuracy and continuity
- Prepared data products and statistics for public dissemination using SQL and in-house software
- Wrote documentation that was later incorporated into Standard Operating Procedures

## SKILLS

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Machine Learning Programming Databases Computer: git, AWS, Google Cloud, mac/linux/windows,  
Civil Engineering / Water Resources, Professional Engineer, WA #50508

## PROJECTS & SPEAKING

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droneseed talk PyCascades talk Strata + Hadoop 2017 online hate speech

## EDUCATION

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MS, Civil and Environmental Engineering, University of Washington (Seattle, WA)

- Thesis article: "Particle resuspension in the Columbia River plume near field"

BA, Physics, Johns Hopkins University (Baltimore, MD)

- Minor: Women, Gender and Sexuality

Data Science Fellow, Galvanize (Seattle, WA)

- Capstone project investigated online hate speech, using word2vec and more traditional natural language processing approaches <https://github.com/eyspahn/OnlineHateSpeech>

## COMMUNITIES AND VOLUNTEERING

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- [PyLadies]
- [NORML Women of Washington]