Kyle A. Chezik

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Skills

Languages	Python, R, SQL, Unix/Linux, Git, Regex, Stan
Machine Learning	Supervised, unsupervised & deep learning, logistic regression, hierarchical & generalized linear models, time series analysis & forecasting, simulation, classification, random forest, clustering, feature selection & feature engineering
Statistics	A/B Testing, probability, likelihood, inference
Tools	Jupyter, Pandas, NumPy, Scikit-learn, R-Studio, Tidyverse, Caret, LME4, RStan, *web-dev*: HTML, CSS, AWS, Flask, *data-vis*: GGPlot2, Matplotlib, Seaborn, R-Shiny

Experience

2019 **Insight Data Science Fellow**, Seattle WA, USA

- Developed an **interactive recommender** using **deep learning**, **computer vision** and cosine similarity to help gardeners find native plants that meet their aesthetic tastes.
- Scraped and decomposed **1400**$^+$ plant images into 512 features using the **convolutional neural network** ResNet18 in **PyTorch**, and combined meta-data from multiple databases.

2013-19 **Research Assistant**, Simon Fraser University, Burnaby BC, Canada

- Automated error identification in time series data using a **Bayesian Hidden Markov model** with 84% accuracy across **1 Million**$^+$ records. Significantly reduced human work hours, and earned the SFU KEY Big Data Graduate Scholarship.
- Identified novel river-network properties using **linear regression**, **simulations**, **ARIMA** processes and **parametric bootstrapping**. Achieved 98% certainty.
- Used **periodic time series** and **generalized hierarchical spatial network models** to determine stream temperature drivers and assess salmon heat risk.
- **Feature engineering** for gridded data with **GIS** (e.g.,*GDAL, OSGEO*) and **parallel computing** within Python (*WhiteboxGAT*) and on the command line (*GNU parallel*).

2016 **Data Engineer Contractor**, ESSA Technologies Ltd., Vancouver BC, Canada

- Constructed and managed a relational database of $\sim$**4 million records**, for a river network model.
- Aggregated messy data from multiple sources. Developed and packaged R functions for **end-to-end reproducibility** and improved data acquisition efficiency.
- Used **feature engineering** of river flow, temperature and landscape data to improve model accuracy.

2009-11 **Medical Device Reporting Specialist**, Medtronic Inc. Mounds View MN, USA

- Monitored clinical trials and compliance with **experimental design** at multiple hospitals.
- Reported medical device failures to the FDA to improve detection of negative health outcomes.

Education

2019 **Ph.D.** Biological Sciences, Simon Fraser University, Burnaby BC, Canada

2013 **M.Sc.** Conservation Biology, University of Minnesota, St. Paul MN, USA

2009 **B.A.** Biology, St. Olaf College, Northfield MN, USA