Kyle A. Chezik

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Technical skills

Tools	Python, R, Unix, Stan, Git, SQL, ArcGIS, GDAL, OSGEO, LaTex, HTML, CSS, Regex, Flask	
ML	*Classification/Clustering*	Random Forest, Convolutional Neural Networks, K-means, PCA, Naive Bayes & Finite Mixture Models
Stats	*Regression*	Hierarchical & Simple... Logistic, Linear/Nonlinear, Lasso & Ridge
	Time Series	ARIMA, Bayesian Structural & Hidden Markov Models
	Smoothing	LOESS & Generalized Additive Models (GAM)

Professional experience

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

- Developed an **interactive recommender tool** that provides conservation minded gardeners with local native plant alternatives possessing similar aesthetic quality to desirable non-native species.
- Scraped >**1400** web images and native plant information held in the USDA and Lady Bird Johnson Wildflower Center databases using **BeautifulSoup in Python**.
- Decomposed each image into **512 features** using the **convolutional neural network ResNet18** within the PyTorch framework and compared images using cosine similarity.
- Deployed the tool as a web app on AWS using Flask.

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

- *State Space Modelling*: Automatically identified erroneous stream temperature records by building a novel **unsupervised Hidden Markov model** in R and Stan.
- Demonstrated an error identification **accuracy of 84%** across >1 million records.
- *Spatial-Network Analysis*: Advanced a spatio-temporal river network model using R and Stan.
- Improved the Canadian Department of Fisheries and Ocean's (DFO) ability to assess heat risk during salmon migration thereby **reducing** regulatory **uncertainty** of a multi-million dollar fishery.

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

- Assembled, organized and quality controlled a stream temperature database for the province of British Columbia containing nearly **4 million records**.
- Built and packaged functions in R for end-to-end reproducibility and continued maintenance.
- Organized the temperature database into relational tables that were transferred to MS Access for a familiar UI experience.
- Supported the development of a province wide river-network temperature model through **feature engineering** of flow, temperature and landscape data.

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

- Optimized medical trial data accuracy through direct interaction and verification with principle investigators at multiple hospitals.
- Systematically recorded and reported medical device failures to the FDA to improve detection of device related 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