Kyle A. Chezik

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Technical skills

Tools	Python, R, Unix, Stan, Git, SQL, LaTex, HTML, CSS, Regex, Flask
ML	*Classification* – Random Forest, K-means, PCA, Convolutional Neural Networks
Stats	*Regression* – Logistic, Linear/Nonlinear, Lasso, Ridge, ARIMA, Generalized/Hierarchical Models *State Space* – Hidden Markov, Multivariate Autoregressive models *Smoothing* – LOESS, Generalized Additive Modeling (GAM)
GIS	ArcGIS, QGIS, SAGA, Whitebox, OSGEO, GDAL, ArcPy

Professional experience

2019   *Insight Data Science Fellow*, Seattle WA, USA
- Developed an **interactive tool** that recommends native plant alternatives matching a gardener's or landscaper's desired plant aesthetics.
- Scraped **>1400** web images and native plant information held in the USDA and Lady Bird Johnson Wildflower Center databases using BeautifulSoup in Python.
- Implemented **cosine image similarity analysis** using PyTorch leveraging >500 ResNet18 features.
- Deployed the tool as a web app on AWS using Flask.

2019   *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 risk management of salmon fisheries by estimating the probability of heat exposure.

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 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.

2011   *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