Frank Kloster

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https://frankkloster.github.io

Skills

- **Programming**: Python (Tensorflow, PyTorch, Scikit-Learn), R (Tidyverse), SQL, Spark, and C/C++.
- **Machine Learning**: Linear and Logistic regression, SVMs, KMeans, PCA, Gradient Boosting, and Deep Learning.
- **Statistics:** Bayesian and Frequentist Inference, Hypothesis Testing, and Exploratory Data Analysis.
- **Domain Knowledge:** Natural Language Processing and Computer Vision.

Education

The Data Incubator / Data Science Fellow May 2019

- Predicted presidential election results using NLP and social media trends. Scrapped over 50,000 tweets 5,000 Reddit posts. Applied text mining techniques such as LDA for topic analysis, sentiment analysis, and data visualization using Plotly.
- Studied the relationships between the New York City elites using NLP using spaCy and graph theory using NetworkX by analyzing over 20,000 photo captions.
- Explored 10GB of StackOverflow using PySpark, such as using Word2Vec and KMeans to cluster topics of interests.

University of California, Riverside / PhD Mathematics June 2019

- Applied techniques in functional analysis to study Hausdorff dimension, geodesics, and Dirichlet forms on fractals.
- Expanded theoretical understanding of numerical techniques of differential equations on finite element method and Green's functions to different self-similar structures such as the Hata tree-like set.
- Lectured and taught a variety of classes, including advanced courses such as Linear Algebra, Real Analysis, Fourier Analysis, and Dynamical Systems.

University of California, Santa Barbara / BS Mathematics and Physics July 2011

Experience

Hitachi America, Ltd. / Research Intern June - Sep 2017

- Utilized Python, OpenCV, and Tensorflow to automate factory line by using camera footage of the factory floor and pipeline
- Created an image classifier with Tensorflow to detect faulty parts from video footage of the factory pipeline using convolutional neural networks such as ResNet
- Designed an object detection system using algorithms such as YOLO and SSD to track the factory pipeline and factory floor in real-time
- Developed a web-based interface to inspect algorithms working in real-time using Python and Flask