KEVIN CONNOR

DATA SCIENTIST, PE

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Skills

MACHINE LEARNING

Regression
Classification
Unsupervised Learning
Natural Language Processing (NLP)

PROGRAMMING

Python
SQL

LIBRARIES

Scikit-learn
numpy
pandas
matplotlib
scrapy
selenium
NLTK
librosa

DATA MANAGEMENT

AWS
Git / Github

SOFTWARE

Excel
Microstation

ENGINEERING

AASHTO Bridge Specs
NBIS Certified Bridge Inspector

Licensure

Professional Engineer   Dec. 2013 to Current

Licensed in Virginia and Maryland

Education

University of Delaware
Masters Civil Engineering 2011
Bachelors Civil Engineering 2007

Projects

The Resonance of Emotion in Audio

Exploration of machine learning's ability to identify emotion in human speech. Analyzed audio speech features using librosa for emotional classification.

War Talk

Collected text for hundreds of presidential speeches from George Washington to Donald Trump and assessed patterns during periods of wartime. Analysis utilized NLP with TFIDF and unsupervised learning with NMF.

Battleground Counties in the 2016 Election

Used demographic and election result data to classify swing counties in the 2016 election. Provided insight into what demographic features may influence a county having a close race through the use of supervised learning algorithms. Demographic data was collected from the American Community Survey.

Comparison of In-Service Monitoring Data for Improved Management of Bridges

Gathered in-service strain gauge data on 14 Delaware highway bridges. Developed statistical methods for comparing new data with similar data sets collected in the past to determine if significant changes to the structure or traffic had occurred. Findings were submitted in a Masters Thesis.

Experience

Metis — New York, NY
Data Scientist — April 2018 to July 2018

Completed a 12-week immersive data science bootcamp with a focus on python programming, machine learning, statistical analysis and communication. The full-time program centered around design and implementation of entire life-cycle projects. See Projects section for examples.

Athavale, Lystad & Associates, Inc. — McLean, VA
Project Engineer — June 2016 to April 2018

Inspection
- Inspected steel and concrete bridges as Team Leader. This included documenting structural defects, maintenance issues and safety concerns.
- Led development of inspection reports for submission to client. Reports included bridge description, an explanation of all defects observed and photos of significant findings. Assigned structural ratings for inclusion in the National Bridge Inventory database.

Design
- Designed deep foundation for culvert structure per AASHTO LRFD specifications.

Load Ratings
- Determined maximum traffic loads that can safely utilize bridges. This was achieved by modeling the bridges based on structural plans and the latest inspection report.

Intertek (formerly Professional Service Industries, Inc.) — Herndon, VA
Project Engineer — Aug. 2014 to June 2016

Bridge Data Collection and Legacy Data Mining Study
- Managed coordination of bridge data collection for 415 state-owned bridges throughout the Mid-Atlantic and Northeast US as part of the Long-Term Bridge Performance Program.
- Managed the processing of data according to Federal Highway Administration (FHWA) protocols and submission of project deliverables throughout the project.
- Analyzed correlations between bridge features (bridge type, construction materials, climate, etc.) and bridge deck performance.

HNTB — Arlington, VA
Engineer — Sept. 2011 to Aug. 2014

I-95 Express Lanes
- Designed 15 bridge elements including deck, pier and joint members for flyover ramp structure per AASHO LRFD and project specifications.
- Reviewed shop drawings of various structural elements for compliance with project specifications during post-design phase of project.
- Resolved construction issues during post-design phase of project while co-locating with contractor.

HNTB — New York, NY
Engineer — Nov. 2007 to Sept. 2009

Brightman Street Bridge
- Reviewed shop drawings of steel and concrete bridge elements for compliance with project specifications during post-design phase of project.

RFK Memorial Bridge Inspection
- Inspected bridge components for defects and structural concerns as Assistant Team Leader.