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

Predicting Bridge Performance with NBI Data
Developed an algorithm to predict bridge performance over a ten-year period based on 52 variables from the National Bridge Inventory (NBI). Model indicated the effect of each variable on bridge performance during the ten year period.

Purple Counties in the 2016 Election
Classification of counties in the 2016 presidential election using demographic and election result data: Using Logistic Regression and Random Forest models, counties having a close election result were identified. Demographic features likely to indicate "purple" counties were interpreted from the models.

War Talk
Assessment of presidential speeches for patterns during wartime periods throughout US history: Analysis utilized NLP with TFIDF and unsupervised learning with NMF.

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

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

Inspection
- Inspection of steel and concrete bridges as Team Leader. This includes documenting structural defects, maintenance issues and safety concerns.
- Lead development of inspection reports for submission to client. Reports include bridge description, an explanation of all defects observed and photos of significant findings. Assign 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.

Metis — New York, NY
Data Scientist — Apr. 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.

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 AASHTO 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.