Michelle.ann.cheung@gmail.com
781-632-9273
/MichelleACheung

MICHELLE CHEUNG, PE

DATA SCIENTIST | STRUCTURAL ENGINEER

CODING LANGUAGES & LIBRARIES

Python

Pandas	Scikit-learn
SciPy	NumPy
matplotlib	Seaborn
BeautifulSoup	Regex
Gensim	Requests
Keras	Nltk

SQL

Scala

MACHINE LEARNING METHODS

Algorithms

- Generalized Linear Models
- k-Nearest Neighbors
- Naïve Bayes
- Decision Trees/Random Forests
- Support Vector Machines
- K-Means
- DBSCAN
- Bayesian Statistics
- Neural Networks

Techniques

- Regularization
- Feature Engineering
- Natural Language Processing
- Bagging/Boosting
- Word2Vec
- A/B Testing

LICENSES

Professional Engineer (PE)

- State of MA License No. 53905
- State of ME License No. 14073

EDUCATION

Structural Design and Construction Master's Coursework
New Jersey Institute of Technology

BS / Civil Engineering Technology
Wentworth Institute of Technology

AWARDS

- American Society of Civil Engineers Citizen Engineer Award Recipient (2012)
- Boston Society of Civil Engineers Younger Member Award Recipient (2012)

EXPERIENCE

General Assembly — **Boston, MA**

Data Science Immersive Fellow — *February 2019 –May 2019*

- Built and analyzed Logistic Regression and Naïve Bayes models to classify Reddit posts by subreddit topics. Data cleaning and preparation included usage of NLP techniques TF-IDF and CountVectorizer. Evaluation of models included statistical analysis (i.e. interpretation of Confusion Matrices and ROC Curve).
- Predicted real estate sale prices using Linear Regression. Feature engineering included evaluation of quantitative and qualitative features through numerous statistical plots and graphs.
- Classified Twitter messages to separate informative from non-informative tweets relevant to natural disaster occurrences. Noise & signal identification were classified through numerous algorithms (Logistic Regression, SVM, Naïve Bayes, & Random Forest) with NLP & context research.
- Detected anomalies in 2017 Fiscal Year expenditures for a local Boston area municipality. Statistical analysis by means of Benford's Law was performed to evaluate expenditure trends for large departments. A DBSCAN model was also built to cluster and identify outliers.

WSP Global — **Boston, MA**

Senior Structural Engineer — *December 2017 – January 2019*

- Managed interdisciplinary team of engineers in complex rehabilitation of MassDOT Interstate-90 Prudential Tunnel
- Conceived repair details for Interstate-93 under accelerated time restraints

Jacobs — **Boston, MA**

Structural Engineer III — *June 2017 – December 2017*

- Organized task team to prepare structural details for MBTA Green Line Extension
- Devised repair details for the MassDOT Central Artery Tunnel System

HNTB — **Boston, MA**

Structural Engineer II — *March 2013 – June 2017*

- Analyzed and performed calculations for variety of complex bridge structures for MassDOT Whittier Bridge/I-95 Improvement Project under accelerated schedule
- Evaluated and designed complex piers for MBTA Green Line Extension Project
- Performed truss analysis/calculations for Tappan Zee Bridge Project
- Computed load calculations for Chelsea, MA Bridge (movable-bridge superstructure); first in office to use analysis software for movable-lift truss

Greenman-Pedersen, Inc. — **Wilmington, MA**

Structural Engineer — *January 2009 – March 2013*

- Calculated design of foundations for "Bridge-in-a-Backpack" in coordination with University of Maine (first "Bridge-in-a-Backpack" structure in Massachusetts)
- Analyzed and evaluated continuous pre-stressed concrete superstructures

Beta Group, Inc. — **Norwood, MA**

Structural Engineer — *August 2007 – December 2008*

- Assisted in design of manhole structures for City of Brookline
- Calculated project cost estimates for MassDOT bridge replacement projects