CARLIE BADDER
DATA SCIENTIST

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SUMMARY

Data Scientist with a passion for programming, machine learning, turning data into insights, and making a difference in people's day. Background knowledge in mechanical engineering, medical sciences, research, customer service, and management. Love being part of multidisciplinary teams that value crossover and skill sharing, dirty work and big picture discussions.

SKILLS

PROGRAMMING: Python, Bash, SQL, MATLAB
MACHINE LEARNING: pandas, scikit-learn, TensorFlow, Regression, Clustering, NLP, Classification
VIZUALIZATION: HTML, CSS, D3.js, Flask, Tableau, matplotlib, Plotly
DATABASES: PostgreSQL, MongoDB, AWS, Excel

EMPLOYMENT

METIS
Data Science Teaching Assistant — Jan 2018 to Current
- Advised and lectured students in design, algorithm, and presentation strategies
- Assisted students with coursework and problem-solving techniques

Data Science Fellow — Sep 2017 to Dec 2017
- An ACCET-accredited 3-month fulltime program in data science and machine learning
- Completed 5 independent projects from the ground up including problem statement, data acquisition, modeling, and storytelling

IAN'S PIZZA ON THE HILL
Assistant Manager — Oct 2015 to Aug 2017
- Developed teams and systems for donations and marketing
- Modified and implemented training manuals and supervised, trained, and mentored 15 employees
- Established a framework for a collaborative and flexible work culture

UPENN INJURY BIOMECHANICS LAB
Research Engineer — May 2014 to Jul 2015
- Designed a machine learning algorithm in MATLAB to identify motion in videos of animal test subjects
- Contributed analyses and visualizations to research papers for IRB approval, internal lab use, and scientific journal
- Created experimental protocol to measure brain trauma in piglets

PROJECTS

FOOD2VEC
Dec 2017

Creating fusion recipes with NLP
- Built a multiclass ensemble model classifier to label recipes by cuisine
- Translated cuisines and recipes into a vector space using natural language processing and a custom word2vec model
- Identified realistic ingredient substitutions with unsupervised K-means clustering and an ingredient parser

WINE RECOMMENDER SYSTEM
Nov 2017

Clustering wines by sommelier descriptions
- Uncovered wine variety groupings using natural language processing, term frequency vectorization, and latent semantic analysis
- Built a recommender system based on user-created wine descriptions and cosine-similarity calculations

RUN OR WALK: ACTIVITY CLASSIFIER
Oct 2017

Specifying activities from iPhone Core Motion measurements
- Accurately identified running and walking segments of accelerometer and gyroscope data using random forest classification
- Developed a secondary classifier intended for low-processing power wearable technologies using signal processing and time series analyses

NON-INVASIVE TACTILE TONOMETER
Aug 2013 to May 2014

Innovating the hand-held tonometer for two cardiologists
- Designed a pulse-wave velocity measuring glove and developed the corresponding signal processing web app
- Selected and validated a pressure sensor circuit with LabView, oscilloscopes, function generators, and MATLAB
- Set the precedent and launched the program for future multidisciplinary engineering senior design teams

EDUCATION

University of Pennsylvania
BSE Mechanical Engineering and Applied Mechanics 2014