Mia Duan Zhang

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SKILLS

LANGUAGES

Java
Python
SQL
Javascript

TECHNOLOGIES

Django
MVC model
ajax
CSS
HTML
LaTeX
Jupyter
Git

SOFTWARE

Linux
R
Stata

EDUCATION

PHD, TECHNOLOGY INFORMATION MANAGEMENT

University of California, Santa Cruz
Mar 2020 | Santa Cruz, CA | GPA: 3.9
Thesis: Analyzing Impacts of Climate Change on Energy Market using Bottom-up and Top-down model

MS, GEOGRAPHY AND ENVIRONMENTAL ENGINEERING

Johns Hopkins University
Dec 2013 | Baltimore, MD | GPA: 3.7

BS, ENVIRONMENTAL SCIENCE

Renmin University of China
Jun 2012 | Beijing, China | GPA: 3.5

LINKS

LinkedIn:// duan-zhang

OBJECTIVE

- To obtain a full-time software engineer position.

PROJECT

PHOTODONUT: A PHOTO-SHARING WEB APPLICATION WITH SOCIAL FEATURES May 2020 – Jun 2020 | Fremont, CA

- Built a social-focused photo-sharing web application with Django, python and Javascript, applying the MVC model.
- Implemented common features like user authentication and authorization, as well as many social features, such as follow, like, comment and user profile, based on a SQLlite database.
- Implemented security features like csrf prevention by including a csrf-token in each form.
- Designed and implemented a consistent UI with styles and resources from Bootstrap and Font Awesome.
- Deployed the website on heroku with source control software Git.

A MACHINE LEARNING MODEL TO PREDICT CARBON EMISSIONS FROM ELECTRICITY SUPPLY DATA

Jan 2016 – Mar 2016 | UCSC, CA

- Implemented data mining algorithms including linear regression, Support Vector Machine, kernel ridge regression, Stochastic gradient descent regression, and K-nearest neighbors to predict carbon emissions from power plant generation and operation data, using sklearn, numpy and pandas.
- Compared model results with evaluation metrics such as R-square to indicate the goodness of fit and the MSE and MAE to show the prediction error.
- Achieved data visualization using Jupyter notebook and matplotlib, directly showed the performance of different machine learning algorithms.
- Built a super model by integrating the studied algorithms, which selects the best performing algorithm for each data set. This super model outperforms using any single algorithm.

EXPERIENCE

UNIVERSITY OF CALIFORNIA, SANTA CRUZ | Graduate Student Researcher

Sep 2015 – Mar 2020 | Santa Cruz, CA

- Energy Economic Modeling and Data Analysis
  - Collected and cleansed industrial U.S. input-output data and transportation data and constructed a U.S. regional bilateral commodity trade flow matrix in python.
  - Developed a macro-economic Computable General Equilibrium (CGE) model in popular optimization software GAMS, specifically designed for quantifying the impact of climate-change-induced hazards on Northern California natural gas pipelines and facilities and identifying vulnerable infrastructures.
  - Developed a workflow for large scale data computations and boosted the efficiency by ~100x using carefully designed python script.