Zhenzhuo Lan

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EDUCATION

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

MS in Computer Science
PhD in Chemical Engineering
GPA: 3.62 / 4.0
2017 - 2022 (expected)
Los Angeles, CA

TIANJIN UNIVERSITY (TJU)

BS in Chemical Engineering
2013 - 2017 | Tianjin, China
GPA: 3.70 / 4.0

COURSEWORK

Analysis of Algorithms
Machine Learning
Applied Natural Language Processing
Database Systems
Numerical Analysis and Computation
Operating Systems
Web Technologies
Modeling and Analysis of Chemical Engineering Systems Computational Materials

SKILLS

PROGRAMMING

Proficient:
Python • Javascript • Java • HTML5/CSS • MySQL • C
Familiar:
C++ • Matlab • LaTeX

TECHNOLOGY

Android • Amazon Web Services (AWS) • Google APP Engine (GAE) • Linux • PyTorch • scikit-learn • Node.JS • React.JS • Android Studio

EXPERIENCES

Research Assistant 2017-present
USC Viterbi Engineering School
Research Mentor 2018-2019
Viterbi Summer Undergraduate Research Experience (SURE)
Summer High School Intensive in Next-Generation Engineering (SHINE)
Math Tutor 2018
Volunteered as a math tutor for Linear Algebra at LA Trade Tech College
Research Intern at Harvard University
2016 - 2017

PROJECTS

MOBILE APP DEVELOP: ANDROID NEWS APP 2020

- Developed an Android application that allows users to search, read, bookmark and share latest news. Designed and implemented a real-time trending chart on searched keywords.
- Implemented back-end using Node.JS on AWS to request news data from Google News API and front-end using Java on GAE for the realization of multiple tabs, search functionality, swipe refresh, process bar, RecycleView, etc.

WEB DEVELOP: RESPONSIVE NEWS WEBSITE 2020

- Developed a responsive news website for browsing New York Times and Guardian news with auto-suggest feature for search box, a comment box, labels and share buttons for each piece of news.
- Technologies used:
  AJAX/JSON/HTML5/React-Bootstrap/React/Node.JS/AWS/GAE

NLP: EVENT TEMPORAL RELATION EXTRACTION 2019

Implemented a neural-network based biLSTM classiers that leverages contextualized embedding models (BERT, RoBERTa, and XL-Net) to determine pair-wised temporal relation between events for natural language comprehension.

NLP: NAME ENTITY RECOGNITION 2019

Implemented logistic regression classifier with Viterbi algorithm for sequence tagging to perform supervised named entity recognition for Twitter data.

RESEARCH

MACHINE LEARNING: CHEMICAL PROPERTY PREDICTION

2018 – 2018 | Sharada Lab, USC

- Built linear regression and random forests to predict chemical properties for QM9 Google Database which contains more than 130,000 molecules using SMILES as the feature.
- Obtained accurate predictions of chemical properties that are comparative to DFT calculations.

AWARDS

2020 TLARGI fellowship, the Los Angeles Rubber Group Inc.
2019 WiSE Travel grant, USC
2017 Viterbi/Graduate School Merit Fellowship, USC
2016 Ten-month Fellowship for Undergraduate Thesis Program at Harvard, TJU
2016 National college student chemical engineering design competition: The 1st prize of Northern China
2015 Qiushi Honors School Outstanding Student Scholarship, TJU

PUBLICATIONS

- **Lan, Z.**, Mallikarjun Sharada, S. (2020). *Physical Chemistry Chemical Physics*. 22.14, 7155-7159. **(2020 HOT article)**
- **Lan, Z.**, Mallikarjun Sharada, S. (2018). *Physical Chemistry Chemical Physics*, 20(40), 25602-25614. **(2018 HOT article)**
- 7 conference presentations.