

Jifu Zhao

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Education

University of Illinois at Urbana-Champaign

Ph.D. in Nuclear Engineering GPA 3.91/4.00

May 2019

Master of Science in Applied Statistics

May 2018

Master of Science in Nuclear Engineering

Aug. 2016

University of Science and Technology of China

Bachelor of Science in Nuclear Engineering GPA 3.93/4.30

Jun. 2014

Related Courses

Introduction to Data Science	Statistical Learning in Data Science	Advanced Data Science	Machine Learning
Applied Regression & Design	Statistics of Big Data & Clustering	Pattern Recognition	Statistical Learning

Experience

Synchrony Financial (GPSopper)

Chicago, IL

Artificial Intelligence Intern

May 2018 - Aug. 2018

- Designed and built a complete data pipeline for data query, cleaning and transformation
- Conducted comprehensive feature engineering and visualization over millions of financial data
- Built predictive models with Logistic Regression, Random Forest and Boosting for loan status prediction
- Developed face detection and verification systems with OpenCV, Keras and TensorFlow

University of Illinois at Urbana-Champaign

Urbana, IL

Graduate Research Assistant

Aug. 2014 - Present

- Ph.D. Thesis: Implementation and Simulation of Mobile Sensor Networks for Nuclear Radiation Detection
- Led a team of five to develop the mobile sensor network simulation platform and conduct experiments
- Applied machine learning techniques (PCA, Autoencoder, KNN, SVM, Isolation Forest) to anomaly detection
- Developed algorithms with KDE, MLE and Kriging techniques for automated radioactive source localization
- Implemented Convolutional Neural Networks with Keras/TensorFlow for automated isotope identification

Projects

Large-Scale Landmark Recognition via Deep Learning

Spring 2018

- Built triplet network with VGG16 and Inception network to extract abstract image features
- Implemented KNN algorithm for automated landmark recognition and labeling
- Improved accuracy through fine-tuning pre-trained CNNs on ~ 150K real-world landmark images

Hadoop Implementation of Movie Recommender System

Fall 2017

- Constructed user-movie utility matrix and extracted co-occurrence matrix from Netflix movie review dataset
- Implemented item-based collaborative filtering algorithm through Hadoop MapReduce chaining jobs
- Made movie recommendations based on top-k user rating predictions

Lending Club Data Analysis and Modeling

Spring 2017

- Conducted data cleaning, exploratory analysis and feature engineering on Lending Club dataset
- Implemented Logistic Regression, Random Forest and Neural Networks to predict loan status
- Achieved 0.72 AUC through oversampling on highly imbalanced dataset

Skills

Computer

Python, SQL, TensorFlow, Keras, R, MATLAB, Java, Hadoop, Amazon Web Service

Data Science

NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, Plotly, H2O, CatBoost, LightGBM, XGBoost

Machine Learning

Predictive Modeling, Anomaly Detection, Computer Vision, Recommender Systems