

JIANBO DAI

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EDUCATION

The University of Edinburgh, UK

Sep. 2019 - Present

MSc in Artificial Intelligence

Relevant Courses: Machine Learning and Pattern Recognition, Accelerated Natural Language Processing, Deep Learning, Probabilistic Modelling and Reasoning, Natural Language Understanding, Generation, and Machine Translation

The University of Manchester, UK

Sep. 2017 - Jun. 2019

BEng in Chemical Engineering, GPA: 3.82/4.00 (75.9/100)

Relevant Courses: Numerical Methods for Differential Equations, Discrete Mathematics, Process Control, Optimization

Ranking: About top 10% students out of 302 students

Dalian University of Technology, China

Sep. 2015 - Jun. 2019

BEng in Chemical Engineering, GPA: 3.83/4.00 (88.3/100)

Relevant Courses: Advanced Mathematics I and II, C language programming, Probability and Statics, Linear Algebra, Fundamentals of Computers, Electrical Engineering, Electronic Engineering

Ranking: Top 3% students out of 219 students

Selected Honors: National 8th of Chinese College Student Chem-E-Car Competition in 2017; 1st Prize of China's National Undergraduate Math Contest in Dalian in 2016; 3rd Prize in International Mathematical Modeling Competition in 2017; Outstanding Graduates of DLUT in 2019

TECHNICAL SKILLS

Computer Languages

Fluent in Python, C, LaTeX; Have experience in HTML, SQL, C++, Qt

Framework

Fluent in Pytorch, Numpy, Matplotlib, SciPy

Language

Chinese (native), English (fluent), French (beginner)

PROJECT

Multi-functional Autonomous Underwater Vehicle: Diver Tracking

Jul. 2018 - Oct. 2018

Summer Research

Underwater Vehicle Laboratory, DLUT

- Implemented the YOLO 3.0 algorithm on the upper computer to recognize human beings underwater.
- Participated in designing a user interface for the upper computer using Qt widgets objects.

Trigram Language Model over Characters

Sep. 2019 - Oct. 2019

NLP Course Projects

UoE

- Built a trigram language model by collecting counts for character 3-grams and estimating probabilities with smoothing methods such as add-one and add- α .
- Used the model to generate random sentences and to calculate documents' perplexity for language identification task.
- The optimal model is utilized to investigate influence of the genre and size of the training data.

Classification of Images of Handwritten Digits and Letters

Oct. 2019 - Nov. 2019

Deep Learning Course Projects

UoE

- Used multi-layer neural network and different architectures and settings to classify images.
- Implemented ReLU activation function and its variants to explore their influence theoretically and experimentally.
- Implemented convolutional neural network with ResNet and batch normalization to enhance the model performance.
- Further improved the generalization performance of the network by using data augmentation and weight decay.

Exploring distributional similarity in Twitter

Nov. 2019

NLP Course Projects

UoE

- Implemented various vector semantic models to represent words, including basic PPMI and its variants with Laplace smoothing and context distribution smoothing. Investigate different similarity measures such as cosine similarity, Jaccard and Dice similarity methods.
- Used data from Twitter to compute relatedness of country names and found that it tends to be higher when they are geographically closer except for when news cause considerable relations between countries.