ZHANG, ZIHAN

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EDUCATION

Master of Science with Distinction @ University of Edinburgh (UK) Sep. 2017 - Nov. 2018
Data Science @ School of Informatics **GPA: 78/100 Thesis: 72/100**
Core Courses: Machine Learning and Patter Recognition (69), Machine Learning Practical (84), Probabilistic Modelling and Reasoning (90), Data Mining and Exploration (80), etc.

Bachelor of Science @ Shangdon University (985 & 211 project, China) Sep. 2013 - Jun. 2017
Mathematics and Applied Mathematics @ School of Mathematics **GPA: 85/100 or 4.3/5.0**
Studied at *Hua Luogeng Class*, a National Mathematical Training Base, ranked top 3 in China by specialization.
Related Courses: Probability Theory (89), Mathematical Statistics (95), Applied Statistics (88), etc.

SKILLS

Advanced Python (TensorFlow, Keras, Pandas, sk-learn, etc.), Linux, Hadoop
Beginner C, C++, Java, SAS, SQL, Matlab, R

RESEARCH & PROJECTS

TensorFlow Applied to Neural Language Models Jun. 2018 - Aug. 2018
MSc thesis, supervised by Dr. Ben Allison (Amazon) and Dr. Tania Bakhos (Amazon). *pdf and code*

Implement Neural Language Models with Mixture of Softmaxes using TensorFlow, and optimize hyperparameters mainly by specific Random Search to increase accuracy. Then speed up training by several tricks. The final model has higher accuracy and higher speed, compared with the original model. Finally, compare the final TensorFlow model with the same model implemented using PyTorch.

Marketing: Predicting Customer Behaviors Mar. 2018 - Apr. 2018
Coursework, with Yi Wei, Wen Jia and Jiayu Li. *pdf*

Preprocess the large and dirty dataset provided by KDD Cup 2009 competition using pandas, including variable clipping, missing data filling and dimensionailty reduction, which makes it clean enough to feed neural networks. Then predict bahaviors by deep models and evaluate the result by AUC scores. In terms of customer churn, one of the three behaviors, the prediction AUC exceeds the first place of the competition.

Instance Segmentation of Nucleus Images Feb. 2018 - Apr. 2018
Coursework, with Yi Wei and Zhengjun Yue, supervised by Prof. Steve Renals. *pdf*

Segment nucleus instances from nucleus images acquired in different microscopy systems, which is provided by Kaggle 2018 Data Science Bowl. In the baseline experiments, use fully convolutional networks to semantically segment nuclei from the background, and use open operation to separate individual nuclei. In the contrast experiments, apply Mask RCNN to direct segment nucleus instances. Two models are implemented, pretrained on COCO datasets and evaluated by mean average procision. Mask RCNN significantly outperforms the baseline.

AWARDS & HONORS

Informatics International Masters Scholarship Nov. 2017

Hua Luogeng Schorlarship Dec. 2016

Honorable Mention @ Interdisciplinary Contest in Modeling (US) Apr. 2016

First Prize @ Shandong Province Mathematics Competitions (China) Dec. 2015

Third Prize @ Chinese Mathematics Competitions Nov. 2015

Meritorious Winner @ Certificate Authority Cup International Mathematical Contest in Modelling Jan. 2015