Yong Zhang

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Education

Nanyang Technological University, Singapore 2013 – 2017
Ph.D. in Electrical and Electronic Engineering 4.92/5.0

- Doctoral studies with thesis title Semantic Representation Learning for Natural Language Understanding. Designed and developed several innovative machine learning algorithms with specific applications in natural language understanding tasks, including document summarization, sentence modeling, sentiment analysis, etc.
- Strong oral and written communication skills with experiences in presenting at top conferences, publishing research papers and writing proposals for research funding. Published four journal articles, four conference papers, and two book chapters.

Zhejiang University, China 2009 – 2013
B.Eng. in Electrical Engineering and Automation (First-class honor graduate) 3.88/4.0

Working Experience

Amazon USA 2019 – Current
Applied Scientist Alexa AI

- In charge of scientific model design of conversational information retrieval system.
- Proposed a new algorithm for question suggestion in purpose of news recommendation. The algorithm achieves state-of-the-art performance and the work is submitted to EMNLP 2021.

Research Scientist Amazon Fashion

- Owned private brands recommendation at detail pages project. One product of the project contributes tens of millions of dollars to Amazon.
  - Proposed a personalized recommendation model based on convolutional neural networks using Pytorch.
  - Participated in building an AWS-based ML system that fully automates the system from data extraction, model training to recommendation serving. Tools used include SageMaker, ElasticCache, Docker, etc.
  - Delivered multiple talks on the proposed algorithm.
- Owned ads performance models for Amazon internal advertisers.
  - Developed Gradient Boosting based models to estimate CTR and CVR values of private brands products shown in ads slots. Deep learning models have also been explored and experimented.
  - Wrote ETL package using Scala.
- Main contributor of private brands recommendation at search pages project. The project contributes over 100 million dollars to Amazon private brands.
  - Productionize a neural information retrieval model for retrieving relevant products given search queries. The production code is 10 times faster than prototype code. Tensorflow is the main framework used.
  - Extended the model to international markets. Wrote a package to process non-English languages.
  - Participated in building a fully automated ML pipeline from model development to production service.

Shopee Singapore 2018 – 2019
Data Scientist

- Developed Unique User Identification System - a graph-based identity management system aimed at fraud detection, credit scoring and marketing.

  - Built graph infrastructure and graph DB from scratch using Janusgraph, Apache Tinkerpop, Pyspark.
  - Explored large-scale graph data ingestion and fast graph query using Gremlin and ElasticSearch.
  - Designed graph embedding algorithms to effectively learn user representations.
- Built and deployed end-to-end product category recommendation system for sellers. Fasttext and CNN were implemented to deal with the complicated category tree. The web-API served tens of millions of calls per day from sellers of seven markets across Southeast Asia and Taiwan. Tools used include Flask, Gunicorn and Logstash.

GroupM Singapore 2017 – 2018
Data Scientist

- Developed a cross-device and cross-platform consumer identity management system for audience re-targeting across all media. Responsible for ETL and feature design. Hive is utilized.
- Designed attribution and clustering models to mine consumer insights from their browsing footprints for the purpose of effective marketing and better consumer ads serving. One web-based interactive app based on R shiny was developed for illustration.
- Intern project: built web crawler to parse web-pages and scrap information, and designed ML models to predict audience demography attributes including age, gender, house income, based on users' browsing logs. Large-scale data ETL and clean was done.

Skills

- Programming: Python == SQL > R == Scala
- Platforms: Pytorch, Tensorflow, SageMaker, ElasticSearch
- Language: English - Fluent, Mandarin - Native

Honors and Awards

Nanyang Research Scholarship	2013 – 2017
Zhejiang University Excellent Student Awards	2010 – 2012
First-class Scholarship for Outstanding Student	2011 – 2012
Wangguosong Scholarship (the most prestigious honor of the school)	2012
Sichuan Province Excellent Student Leader	2009

Certifications

CFA I passed	2016

Selected Publications

My full publications can be found at my Google scholar

- Yong Zhang, Meng Joo Er, Rui Zhao and Mahardhika Pratama. Multi-view Convolutional Neural Networks for Multi-document Extractive Summarization, IEEE transactions on cybernetics, 2017.
- Meng Joo Er, Yong Zhang*, Ning Wang and Mahardhika Pratama. Attention Pooling-based Convolutional Neural Network for Sentence Modelling, Information Sciences, 2016. (*corresponding author)
- Yong Zhang and Meng Joo Er. Sequential active learning using meta-cognitive extreme learning machine, Neurocomputing, 2016.
- Yong Zhang, Meng Joo Er, Rajasekar Venkatesan, Ning Wang and Mahardhika Pratama. Sentiment Classification Using Comprehensive Attention Recurrent Models, in IJCNN, 2016.