Jiameng PU

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Education Background

Department of Computer Science, Virginia Tech, US 08/2017-now

- **Major:** Computer Science and Application GPA (Major): 86.75/100 (15%)
- **Program:** Philosophy of Computer Science

School of Computer Science, Wuhan University (WHU, China) 09/2013-07/2017

- **Major:** Computer Science and Technology GPA (Major): 86.75/100 (15%)
- **Degree:** Bachelor of Engineering
- **National Endeavor Fellowship** (twice, 4%, Ministry of Education) 09/2014&09/2015
- **Core Courses:** Linear Algebra 96, Combinatorial Mathematics 95, Probability and Mathematical Statistics 91, Object-Oriented Programming 95, Pattern Recognition 92, Data Structure 89
- **On-line Courses:** Machine Learning (Stanford University, Andrew Ng)
  Neural Networks for Machine Learning (University of Toronto, Geoffrey Hinton)
- **GRE:**322(V155(68%below),Q167(93%below),AW3.0(17%below) 05/2016

Paper

Jiameng Pu, Qian Zhang, Lefei Zhang, Bo Du, Jane You, ***Multiview Clustering Based on Robust and Regularized Matrix Approximation***, Accepted, 2016 International Conference on Pattern Recognition (ICPR 2016).

Research Assistant

Network Dynamics and Simulation Science Laboratory, VT Research Assistant 08/2017-now

- Work with the research group in NDSSL to build models that predict the spread and scale of infectious diseases like recently emerging epidemics like H1N1 in the US, cholera in Haiti and Ebola in western Africa.

State Key Laboratory of Software Engineering, WHU Research Assistant 08/2015-06/2016

- Participated in the research group of Prof. Bo DU and led a team to conduct the program Multiview Clustering Based on Robust and Regularized Matrix Approximation;
- Developed a more comprehensive understanding of machine learning, computer vision and data mining;

Internship & Work Experience

Teaching Assistant, VT CS1054: Intro to Programming in Java 08/2017-now

- Teach in lab sessions and work with students in java projects

IBM China Development Labs, Lab Based Services Data Science Intern 09/2016-11/2016

- Statistical analysis, e.g. application of survival analysis model in different fields
- Participating in integrating and analysing data in the transport system, optimize traffic conditions, e.g. application of A-star algorithm, dijkstra algorithm.

Research Experience

Deep Diffusion Prediction Adivisor: Prof. Samarth SWARUP, Prof. Anil VULLIKANTI 08/2017-now

Overview: We attempt to employ deep learning frameworks to predict disease diffusion, i.e., learn the spread of diseases and epidemic and predict where the next outbreak of epidemic will be. This prediction would help the health authorities to take necessary action in terms of assuring that sufficient resources are available to suffice the need.

Responsibility: Team Member

- Project implementation & experiments

Multiview Clustering Based on Robust and Regularized Matrix Approximation

Advisor: Prof. Bo DU 11/2015-02/2016

Overview: Based on the nonnegative matrix factorization (NMF), this research proposes a novel multiview clustering algorithm, the Robust and Regularized Matrix Approximation (RRMA). We introduce the robust ℓ2,1-norm and ensemble manifold regularization to make the model more discriminative for multiview data clustering. The results demonstrate the superiority of our model compared to some state-of-the-art methods.

Responsibility: Team Leader

- Learnt the most up-to-date clustering and multiview clustering algorithms;
- Proposed a new NMF-based model for multiview clustering;
- Implemented in the Matlab/Octave & used different methods to adjust the parameters;
- Gathered classic datasets & proved the proposed model by contrast tests;

Development of Guide System of Scenic Spots in WHU Advisor: Prof. Xuefei LI 06/2015

Overview: Based on the route of scenic spots in WHU, the project aims to develop a guide system with the functions of navigation, ticket-booking and tourists' evaluation.

Responsibility: Team Member

- Wrote codes based on the graph data structure and proposed several ideas, such as evaluating the quality of the scenic spots, sharing scenic spots on social networking sites, to attain better functions;
- Designed User Interface with Photoshop, Axure, Illustrator.

Establishment of Spam Mail Classification System Advisor: Prof. Xiaoming LIN 04/2015

Overview: In this project, an SVM-based spam classifier is established. It uses word stemming to process the original e-mails and updates the vocabulary list of spam, which increases the rate of classification accuracy to 99%.

Responsibility: Team Leader

- Trained SVM with Gaussian Kernel;
- Preprocessed E-mails (lowercasing, normalizing values like URLs/dollars/numbers and word-stemming);
- Updated words used to get word indices in the vocabulary list to avoid overfitting the training set.

Collaborative Filtering-based Film Recommender System Advisor: Prof. Lefei ZHANG 10/2014

Overview: Based on linear algebra and machine learning, this project establishes a film recommender system with collaborative filtering, and makes further research on the recommender systems of Netflix, Amazon, etc.

Responsibility: Individual Project

- Gathered movie samples for a movie rating dataset;
- Wrote codes based on collaborative filtering learning algorithm, of which the key points include collaborative filtering objective function and gradient.

Professional Skills

- Familiar with programming languages, such as Python, Java, C, C++
- Python Libraries, such as Tensorflow, Keras, Scikit-learn, Numpy, NetworkX
- Familiar with Matlab, Octave, MyEclipse, Visual Studio, IDEA

Awards & Activities

Three certificates of deep learning courses from Andrew Ng's deeplearning.ai 10/2017

Participated in Vision and Learning Seminar 2016, Wuhan (VALSE 2016) 04/2016

- Attended research reports in face recognition, deep learning, visual reality

3rd Prize of College Students' Innovation & Entrepreneurship Competition (10%), WHU 10/2015