Yuqing Zhu

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EDUCATION

Nanjing University *2014.09–2018.06(expected)*
B.S in Computer Science
Selected in National Elite Program (22 chosen from round 175 competitors)

University of Wisconsin Madison *2017.01–2017.06*
Visiting Student
GPA: 94/100

RESEARCH EXPERIENCE

Microsoft Research Asia (MSRA) Visual Computing Group 2017.06 - now
Advisor: Prof. Jifeng Dai *MSRA, Peking, China*

· Propose an end to end solution for instance-aware video segmentation task in dealing with the lack of annotated video mask.
· Utilize the ground truth bounding box as the semi-supervised information to detect and segment object instances in video jointly and simultaneously, preparing for 2018 CVPR submission.

niversity of Wisconsin-Madison Artificial Intelligence Group 2017.02 - 2017.05
Advisor: Prof. Jerry Zhu *UW-Madison, USA*

· Applied to the domain of machine teaching which is an inverse problem to machine teaching, find the smallest training set with a given learning algorithm and a target model.
· Aiming to teach children build program like *Scratch*, model children learning process as a machine teaching problem with random graph theory under the assumption that teachers know the learning goal(program) and wants to find optimal training programs for children.

Lamda Artificial Intelligence Lab 2016.05 - 2017.09
Advisor: Prof .Wujun Li *NJU,Nanjing,China*

· Topic: Deep discrete hybrid recommendation system
· Propose models to learn hash code of Users and items with given user's feature and previous user-item rating matrix, which greatly reduces storage cost with efficient Hamming Distance based retrieval scheme.
· Adopt an alternating learning strategy to learn users' code through neural network and encode items through solving a discrete optimize task based on user-item rating matrix, applied for large-scale image & text recommendation.

SELECTED PROJECTS

Create an official implementation for Flow-Guided-Feature-Aggregation
Advisor: Prof. Jifeng Dai(MSRA)

· *FGFA* is initially described in an ICCV 2017 paper. It provides an accurate and end-to-end learning framework for video object detection.
· The major contributor to reorganize and rewrite the code from old internal Caffe version to MxNet version, and have already accumulated 184 stars.
· Github: *https://github.com/msracver/Flow-Guided-Feature-Aggregation*

Convolutional Neural Network Based Medical Image Segmentor
Advisor: Prof. Jude shavlik(UW-Madison)

· Propose convolutional neural network (CNN) based techniques to automate the aorta segmentation process in Thoracic Aortic Aneurysm (TAA) 2D CT images.
· Develop *patching* and *dynamic patching* techniques to improve the segmentation accuracy with limited data, faster model convergence.

Automated Colorization of Flowers with Generative Adversarial Networks
Advisor:Prof. David Page(UW-Madison)

· Automatically color roses from human sketches via edge pattern.
· Generator in GAN generates the colored image while discriminator in GAN checks whether the output images from generator are real photos of roses.

Image-based Recommendation System with Deep Learning
Advisor: Prof. Wujun Li(NJU)

· 2016 provincial innovation project
· Develop a recommendation system which simultaneously extract image features and make recommendation based on previous rating matrix.
· Improve recommendation quality by the fact that deep neural network used to extract image features are refined by taking the *loss of past* recommendation results as feedback.

SELECTED AWARDS AND HONORS

Microsoft Imagine Cup 2017

· Top 15 in China Finals
· Came up algorithm to utilize facial expression information so as to point out possible pronunciation problem of Children, and make it a feasible application.

2016 CityBank's financial innovation competition

· Second place among all teams
· Designed and applied multiple linear regression and RNN to make future price prediction system of agricultural products.

Singers' Songs Listening Frequency Prediction Competition Held by Alibaba Group

· Top 1% among 5500 teams
· Built a machine learning based predictor of listening frequency of singers' songs and achieved a very competitive result.

SELECTED COURSE

Machine Learning* A	Advanced Machine Learning* B
Deep Neural network* A	Intro-Theory of Probability A

**indicate graduate course in UW-Madison*

TECHNICAL STRENGTHS

Computer Languages	C, C++, Java, Python, Matlab
Deep Learning Frameworks	Tensorflow/Mxnet/Caffee