Youming ZHANG

Tel: +1-9294909127 E-mail: yz7399@nyu.edu
Add:1 River Court, Jersey City, New Jersey 07310, United States

EDUCATION

BS in Information and Computing Science, **Northeastern University** 09/2016-07/2020
- ✧ Cumulative GPA: 3.6/4.00; Junior GPA:3.9/4.0

Academic English Program, **University of Oxford** 07/2018-08/2018

MS in Computer Engineering, **New York University** 09/2021-05/2023
- ✧ Cumulative GPA: 3.8/4.00

AWARDS & CERTIFICATES

Excellent Graduation Theis , 07/2020
Second Class Scholarship,, 07/2019
Outstanding Individual Award, 03/2017
Certificate of Neusoft On Project Training, 02/2020
Third Class Scholarship, 01/2017, 07/2017, 07/2018
Outstanding Class Cadre Award, 04/2017, 04/2018, 04/2019

PUBLICATION & PATENT

Shijie Hao, Yuan Zhou, **Youming Zhang**, Yanrong Guo, Contextual Attention Refinement Network for Real-time Semantic Segmentation, *IEEE Access* 8(1): 55230-55240, December 2020

Shijie Hao, Xu Han, **Youming Zhang**, Lei Xu, Low-light Enhancement based on an Improved Simplified Retinex Model via Fast Illumination Map Refinement, *Pattern Analysis and Application 24*, 321-332, September 2020

Shijie Hao, Leiyu Wang, **Youming Zhang**, An Image Contrast Enhancement Method, No.CN110197471A

PROFESSIONAL SKILLS

Programming Languages: Java,Python
Frameworks: TensorFlow, Hadoop, Pytorch, Spark
Databases: MySQL, SQL Server, Hbase
Operating Systems: Windows, Linux

RESEARCH PROJECTS

Pattern Analysis and Application of Simplified Retina Model Based on Improved Rapid Illumination Map
Shijie Hao, Key Lab of Knowledge Eng with Big Data, Ministry of Education, Hefei U of Tech 01/2018-12/2021
- ✧ Converted the image from RGB format to HSV format
- ✧ Enhanced image contrast by gamma correction in the S (Saturation) space
- ✧ Obtained the information about the image details by Guided-filter in V (Gray Space), enhanced and added it to the basic information to get the image after texture enhancement
- ✧ Obtained a simplified Retinex algorithm based on Retinex algorithm and low-pass filtering to achieve light enhanced image when it acted on the V (Gray Space)
- ✧ Converted the original image to MaxRGB and conducted binary and morphological processing to form the weight matrix with which a new Gray Space to could be achieved by fusing the parts with good vision of light enhanced image and texture enhanced image
- ✧ Performed space inverse transformation in the new HSV space to get the image with natural vision

Credit Default Prediction Based on Simplified Scorecard and Random Forest Model 09/2019-06/2020
Zijian Wang, Institute of Data Analysis & Intelligent Computing, Northeastern University at Qinhuangdao
- ✧ Downloaded quarterly loan data which covered 300000 pieces and 59 features from lendingclub, visualized the data through matplot library in Python, analyzed the distribution of target variables of characteristic variables, and constructed the correlation thermal map of pairwise features
- ✧ Dealt with the missing and abnormal values, identified and deleted the same value features, dealt with the unbalanced data, and extended the data to 400000 data sets with good and bad samples of 1:1 with the SMOTE sampling algorithm
- ✧ Filtered variables according to the values of VIF and COR, so as to reduce the linear correlation
- ✧ Divided the maximum IV binning method, and deleted the features with minimal prediction performance according to the calculated WOE and IV value
- ✧ Trained, verified and divided the test set, and constructed a logistic regression model and a random forest model based on the scorecard, obtaining a predictor with strong classification performance, accuracy 90%, AUC 93, and KS 0.8

Real-Time Image Semantic Segmentation Based On Context Attention Perception 07/2018-09/2019

Shijie Hao, Key Lab of Knowledge Eng with Big Data, Ministry of Education, Hefei University of Technology

- ✧ Downloaded data set for image semantic segmentation such as cityscape dataset, in which all pixels in each image in the training set and verification set are marked with semantic types
- ✧ Sent the training set to the designed network, and optimized the model with random optimization algorithm package ADAM until the loss function of the whole network no longer dropped, or the number of network iterative optimization reached the upper limit
- ✧ Optimized the network super parameters by traversal on the validation set
- ✧ Sent the image to be segmented to the semantic segmentation network
- ✧ Obtained the segmentation results at the output of the network, and labeled each pixel in the graph with a semantic category
- ✧ Compared the segmentation results with the ground truth, used DICE ratio to count the error of segmentation algorithm, and recorded the algorithm time consuming of each test image

INTERNSHIP EXPERIENCE

Research Assistant, Haier Biomedical Industrial Park 08/2020-11/2020

- ✧ Developed CADT with C++ to send instructions to medical instruments and collect medical data
- ✧ Conducted experiments with program cooling instrument every day, and used MySQL to query and export the data we needed
- ✧ Analyzed the experimental data with numpy and matplotlib in Python, and reported the results to Prof. Gong
- ✧ Optimized the algorithm of cooling instrument, and verified the results by field experiments according to Professor Gong's requirements

Research Assistant, Midea Global Innovation Center 11/2020-present

- ✧ Took part in daily meeting of Midea intelligent water dispenser group to clarify everyday task
- ✧ Carried out parameter optimization experiment, and exported and analyzed the data by MySQL and Python
- ✧ Provided the experimental results to the algorithm design group and assisted in MATLAB simulation
- ✧ Obtained the optimized parameters, and fed back the results to the leader according to experimental process

VOLUNTEER ACTIVITIES

Community Service (temperature tester) during the COVID-19 Outbreak
Beijing Rehabilitation Center for Autistic Children
International Marathon