

Haoyu Wu

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Research Interests

- Computer Vision, Machine Learning, and Pattern Recognition

Education

The Chinese University of Hong Kong, Shenzhen

Sep 2016 - Jun 2020

B.S. in Statistics

Shenzhen, China

- GPA: 3.63/4.0 (Core GPA: 3.92/4.0, Ranking: 3/151)
- Related courses: Python(A), C++(A), Database(A), Statistical Inference(A), Probability and Statistics(A), Computational Laboratory(A-), Data Mining(A-), Calculus I&II(A-), Data Structures(In progress), Operating Systems(In progress)

Research Experiences

Image Dehazing & RAW to RGB Mapping

Jan 2019 - Present

Undergraduate Research Assistant, Computer Vision Lab, Advisor: Prof. Rui Huang

CUHK(SZ), China

- Conducted literature review about encoder-decoder network and GAN and assisted in building the model using neural network for image dehazing Challenge
- Used attention module to capture the context information, wide dense blocks to capture more features and weight normalization to speed up the convergence
- Analyzed the degree of information loss when upsampling is used in U-Net for image reconstruction
- Combined global and multi-scale features to produce high-resolution results for RAW to RGB image mapping Challenge

Person Re-identification

Jun 2019 - Aug 2019

Research Intern, VIVA Lab, Advisor: Prof. Robert Laganière

University of Ottawa, Canada

- Implemented channel grouping and multi-branch features on classification-based person re-identification
- Combined margin-based cosine loss and softmax-based loss to learn a better metric space
- Used features on human part segmentation and global features to retain more information
- Analyzed the metrics and ROC curves of several methods on image-based and video-based dataset

Stock Modeling

Jun 2018 - Aug 2018

Quant Intern, Amber AI, Mentor: Wayne Huo, Co-Founder

Shenzhen, China

- Used momentum method, Kalman filter and orthogonal decomposition to construct factors of the stock market
- Carried out the backtesting on stock data using ridge regression and neural networks like CNN and Deep Q-Learning
- Simulated the real market with commissions and slippage, analyzed the maximum drawdown and profit, and optimized the parameters

Campus Experiences

Financial Manager

Jun 2017 - Jun 2018

CUHK(SZ) Running Club

Shenzhen, China

- Organized Running Man in school with more than 70 participants and managed the supply and funds
- Organized long-distance race, delivered materials, guided more than 40 players to the field outside school and closed the race safely in the case of sudden thunderstorm

Global Volunteer

Jul 2019 - Sep 2019

AIESEC Global Volunteer Program

Kuala Lumpur, Malaysia

- Worked with global volunteers to build tandem bicycles, donated them to local schools like National School SS 19 and helped disabled children
- Worked with the Challenges Foundation in Malaysia to conduct fitness tests and Global Village for mentally disabled children

Honors & Awards

- Master's List, Shaw College
- Dean's List Award, School of Science and Engineering

2018 - 2019

2017 - 2019

Publications

Higher-Resolution Network for Image Demosaicing and Enhancing

Kangfu Mei, Jiajie Zhang, Juncheng Li, Haoyu Wu, Rui Huang

Won 1st (perceptual track) in AIM Workshop on RAW to RGB Mapping, ICCV 2019

Skills

- Skills: Python, C++, Java & R
- Languages: Chinese & English (TOFEL 105, GRE 322)