YIDONG OUYANG

yidongouyang.github.io ◇ yidongouyang@gmail.com

EDUCATION

Central University of Finance and Economics September 2017 - Present
Major in Management Information Systems (GPA 90.48/100) top4/52 *Beijing*

Honors: **National Scholarship 2018** (only the top 1% of students can be entitled)

RESEARCH EXPERIENCE

A Survey on Domain Generalization September 2020 - Present
Research Assistance supervised by Jindong Wang *ICT CAS, Beijing*

· Carefully reviewing all of the domain generalization literature.

Domain Generalization by Mutual Information Maximization under Mismatched Label Distributions June 2020 - September 2020
Research Assistance supervised by Donglin Wang *Westlake University, Hangzhou*

· Proposed a mutual information maximum module to explicitly drop superfluous information related to the domain labels.
· Considered the marginal label distribution in domain generalization setting to overcome the tradeoff between distribution alignment and target error minimization from information-theoretic perspective.
· Thoroughly reviewed our methods from both theoretical and empirical perspective and demonstrated the connections and advantages to domain adversarial training and triplet loss.
· Conducted extensive experiments on domain generalization benchmarks to compare with state-of-art.

Robust Learning with Frequency Domain Regularization August 2019 - June 2020
Research Assistance supervised by Weiyu Guo *CUFE, Beijing*

· Investigated the regularization technique from a Fourier perspective and pinpointed an extreme small but valid spectral range for different layers.
· Demonstrated the effectiveness of our regularization technique by reducing the generalization gap on computer vision benchmarks.
· Demonstrated that our regularization technique can especially improve the robustness of the model against low frequency attack.

Learning Efficient Convolutional Networks through Irregular Convolutional Kernels February 2020 - March 2020
Research Assistance supervised by Weiyu Guo *CUFE, Beijing*

· Proposed RotateConv kernels as an interpolation-based method that transforms traditional square kernels to line segments.
· Conducted extensive experiments to verify our approach can massively reduce the number of parameters and calculations while maintaining acceptable performance.

PUBLICATIONS

· **Yidong Ouyang**, Siteng Huang, Jindong Wang, Donglin Wang. Domain Generalization by Dropping Spurious Information Out, technical report.
· **Yidong Ouyang**, Weiyu Guo, Adam Dziedzic, Sanjay Krishnan. Robust Learning with Frequency Domain Regularization, technical report.
· Weiyu Guo, Jiabin Ma, **Yidong Ouyang**, Liang Wang, Yongzhen Huang. Learning Efficient Convolutional Networks through Irregular Convolutional Kernels, Neurocomputing 2020.

PROJECT

· Cross-lingual Recommendation: Trained cross-lingual word embedding on unparalleled corpus by adversarial training the adaptor to align the distribution on common word pairs. And we cluster the documentation from the COVID-19 US state policy database and the Chinese government COVID-19 policy dataset.

HONORS AND AWARDS

· Excellence in Academic Research and Innovation Scholarship, CUFE, 2018.
· Comprehensive Development Scholarship, first prize, CUFE, 2018.