

# YIDONG OUYANG

yidongouyang.github.io  $\diamond$  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 Dropping Spurious Information Out** 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* CUFU, 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* CUFU, 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, CUFU, 2018.
- Comprehensive Development Scholarship, first prize, CUFU, 2018.