Guanghui Yu

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Education

2019-08 - Current

Ph.D.: Computer Engineering

Washington University in St Louis, St Louis, USA

- Research focus on machine learning and human computer interaction
- Advised by Chien-Ju Ho

2015-09 - 2019-06

Bachelor of Science: Electronic Information Science and Technology

Tsinghua University, Beijing, China

- Research focus on recommendation system and data mining
- 2017 Academic Excellence Award and Technology Innovation Excellence Award

Research Experience

Prof. Chien-Ju Ho's Lab, Washington University in St. Louis

2020-05 - Current **Human Computer Interaction and Sequential Decision Making**

- Designed AI that cooperates with real human in Overcooked (a multi-player cooperation game)
- Proposed algorithms to nudge biased decision makers and change their behaviors
- Proposed a general information design neural network for any receiver model
- Built models to understand human decision-making process

2020-05 - Current **Fair and Ethical Artificial Intelligence**

- Designed human subject experiments to understand human ethical preferences
- Investigated factors affecting human ethical perceptions of AI

2019-09 – 2020-12 **Resource Matching**

- Combined classical primal-dual method and data-driven model
- Built an online reusable resource matching system for interventions of homeless populations

Prof. Yong Li's Lab, Tsinghua University

2018-02 – 2019-06 **Point of Interest (POI) Recommendation**

- Imposed spatial information into matrix factorization model
- Improved cross-city tourist recommendation system

2017-06 – 2018-01 **Item Recommendation**

- Undertook processing data, designing algorithm and programming with Java
- Improved both ranking based and rating based implicit recommenders with multiple interactions (purchase, add to cart, collect, view, et al.)

Publication

- **Yu, G.**, Ho, C. (2022). "Environment Design for Biased Decision Makers." IJCAI 2022.
- Narayanan, S., **Yu, G.**, et al. (2022). "How Does Predictive Information Affect Human Ethical Preferences?" AAAI/ACM AIES 2022.
- **Yu, G.**, Ho, C., Das, S. (2021) "Online Matching with Budget Constraints: Bridging Primal-Dual Techniques and Reinforcement Learning."
- Ding, J., **Yu, G.**, et al. (2020). "Improving Implicit Recommender Systems with Auxiliary Data." ACM TOIS 2020.
- Ding, J., **Yu, G.**, et al. (2019). "Learning from Hometown and Current City: Cross-city POI Recommendation via Interest Drift and Transfer Learning." ACM IMWUT 2019.
- Ding, J., **Yu, G.**, et al. (2019). "Sampler Design for Bayesian Personalized Ranking by Leveraging View Data." IEEE TKDE 2019.
- Ding, J., **Yu, G.**, et al. (2018). "Improving Implicit Recommender Systems with View Data." IJCAI-ECAI-2018.
- Ding, J., Feng, F., He, X., **Yu, G.**, et al. (2018). "An Improved Sampler for Bayesian Personalized Ranking by Leveraging View Data." The Web Conference 2018. (the best poster prize)

Work History

2023-03 - Current

Machine Learning Engineer Intern

Apple Inc, Cupertino, USA

- User understanding and relevance inference
- Developed machine learning models for relevance and graph inference

2022-06 - 2022-08

Data Scientist Intern

Wayfair LLC, Boston, USA

- Customer behavior understanding and customer needs predicting
- Deployed time series forecasting model for customer needs prediction
- Best internship innovation project award

2018-08 - 2018-10

Data Mining Intern

Tencent, Beijing, China

- WeChat check-in behavior data processing and analyzing
- Built distributed matrix factorization model to provide POI recommendation