WEN XIE

Houston, TX, USA
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EDUCATION

University of Houston
Ph.D. candidate in Electrical and Computer Engineering, *GPA: 3.85/4.00* *2018 - present*
Dissertation: Machine Learning and Unstructured Data Analytics for Digital Marketing
Selected courses: Deep Learning, Natural Language Processing, Optimization, Econometrics, Marketing Models, Financial Mathematics, Digital Image Processing
Advisor: Dr. Zhu Han

University of Electronic Science and Technology of China *2014 - 2018*
B.Eng. in Electronic Information Engineering, *GPA: 3.95/4.00*
B.Econ. in Finance, *GPA: 3.95/4.00*

RESEARCH INTEREST

Artificial Intelligence, Machine Learning, Natural Language Processing,
Visual Marketing, Online Advertising, Social Media, Causal Inference, Stochastic Modeling

WORKING PAPERS

Wen Xie, Mi Hyun Lee, Ming Chen, and Zhu Han. "Understanding Consumers' Attention on Mobile Advertisements: An Ambulatory Eye-Tracking Study with Machine Learning Techniques," 3^{rd} *round of revision at* ***Journal of Advertising*** **Funded by 2021 Amazon Research Award**

Wen Xie, Gijs Overgoor, Hsin-Hsuan Meg Lee, and Zhu Han. "Not a Black or White Matter: Auto-Detection and Perception of Skin Tone Diversity in Visual Marketing Communication," *in preparation for submission at* ***Marketing Science***

Wen Xie, Ron Dotsch, Yozen Liu, Maarten Bos, and Zhu Han. "Congruence Affects Social Media Ad Engagement," *in preparation for submission at* ***Journal of Marketing Research***

WORK IN PROGRESS

"Advertising with High Quality Image Might Hurt: Insights from Airbnb Demand Analysis Leveraging Image Analytics" - with Sam Hui and Zhu Han.

INDUSTRY EXPERIENCE

Research intern at Snap - Computational Social Science (CSS) team *Summer 2022*
- Users watch short videos or photos, shared by their friends (called stories on social platforms such as Snapchat and Instagram). They may encounter an ad between two consecutive stories.
- This project investigates the effects of story-ad congruence on ad viewing time by exploring two types of congruence: media content (15 types such as sports, games, and foods.) and format (video and photo).
- Analyzed in-app behavioral data of over over 8 million users, extracted complete sets of covariates such as visual features (temperature and complexity). Employed propensity weighting to account for potential endogeneity, and the results revealed that the congruence increases ad viewing time by 11%.

- Collaborated with two external teams to acquire data for my research beyond the CSS team, and facilitated collaborations between Snap and UH. This project has a significant impact (revenue) on ad-driven platforms.

Machine Learning Research Intern at Apple - Web Answers and Ranking Team *Summer 2021*
- Answering open-domain multi-hop questions needs multiple sources such as multiple paragraphs from different Wikipedia pages. It is challenging to answer such questions because the concatenation of several paragraphs is long while typical Transformer-based models have input length limits.
- Proposed to use text summarization to summarize multiple sources and extract key information for answering the question, thus avoiding the loss of important information due to the input truncation.
- Rranked Wikipedia data for picking important paragraphs with dense passage retrieval and Built Summarizer and Reader model using Ctrlsum, Pegasus, BART, and T5.
- Finetuned Summarizer and Reader on Hotpot-QA and NQ dataset, and improved Exact Match (by 30%) and F1 score (by 20%). Facilitated QA modeling for production in the industry.

Other experiences: Mentored two high school students on object detection projects; named entity recognition with conditional random fields; abusive language classification with LSTM; box-office prediction with textual and visual features using SVM, LightGBM, and hierarchical attention networks.

PEER-REVIEWED CONFERENCE PROCEEDINGS

Wen Xie, Ron Dotsch, Maarten Bos, and Yozen Liu. 2023. "Improving Social Media Video Advertising Acceptance Using Priming: Evidence from Big Data Analysis." *Accepted at 2023 Academy of Marketing Science (AMS) Annual Conference, New Orleans, LA*

- **Best Conference Paper** M. Wayne Delozier Award

Wen Xie, Gijs Overgoor, Hsin-Hsuan Meg Lee, and Zhu Han. 2023. "Automated Detection of Skin Tone Diversity in Visual Marketing Communication." *In Proceedings of 2023 Hawaii international Conference on System Science (HICSS), Maui, Hawaii*

Wen Xie, Ming Chen, and Zhu Han. 2020. "How to Enhance Online Hotel Ad Effectiveness Based on Real-World Data: Mobile Eye-Tracking and Machine Learning Tell." *In Proceedings of 2020 American Marketing Association (AMA) Winter Academic Conference, San Diego, California*

- **Best Paper Award** in Market Research track

CONFERENCE PRESENTATIONS

2023: Hawaii International Conference on System Sciences, Marketing Science Diversity, Equity, and Inclusion (DEI) Conference, AMS Annual Conference (forthcoming)

2021: Annual ISMS Marketing Science Conference

2020: AMA Winter Academic Conference

HONORS and AWARDS

M. Wayne Delozier Award Best Conference Paper at 2023 AMS Annual Conference

Cullen Graduate Student Success Fellowship (UH)

Best Paper Award in Market Research at 2020 AMA Winter Academic Conference

Excellent Student Leader Scholarship (UESTC)

WAC Scholarship (WAC Lighting CO.)

Grade A Certificate of Comprehensive Quality of Undergraduates (Sichuan Provincial Committee of the Communist Youth League of China)

National Encouragement Scholarship (UESTC)

The Provincial First Prize in China Undergraduate Mathematical Contest (Popularization Committee of the Chinese Mathematical Society)

SKILLS

Programming: Python, SQL, Matlab, BlueSky Stats, Eviews
Machine Learning Tools: PyTorch, Keras, TensorFlow
Others: Numpy, Pandas, Scipy, StatsModels, PyMC3, Matplotlib, GGplot
Languages: Fluent in Chinese and English

REFERENCES

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