XU HAN

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EDUCATION

Ph.D. Student in Computer Science *Sep 2017 - Dec 2022*
University of Colorado Boulder, Boulder, USA
Research Interests: Human Computer Interaction, Data Science, Data Visualization
Advisor: Tom Yeh GPA: 3.97 /4.0

B.E. in Electronic Engineering *Sep 2013 - Jun 2017*
University of Science and Technology of China, Hefei, China
Undergraduate Thesis: Contact-free Camera Measurements of Heart Rate under Practical Scenario
Advisor: Joern Ostermann, Zhibo Chen

PUBLICATIONS

[1] **Xu Han**, Michelle Zhou, Matthew Turner, Tom Yeh. "Designing Effective Interview Chatbots: Automatic Chatbot Profiling and Design Suggestion Generation for Chatbot Debugging." *In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI). 2021. acceptance rate: 26.3%*

[2] Yichen Wang, Jason Shuo Zhang, **Xu Han**, and Qin Lv. "Jump on the Bandwagon?âĂŞCharacterizing Bandwagon Phenomenon in Online NBA Fan Communities." *In International Conference on Social Informatics (SocInfo), pp. 410-426. Springer, Cham, 2020. acceptance rate: 33%*

[3] **Xu Han**. "Am I Asking It Properly? Designing and Evaluating Interview Chatbots to Improve Elicitation in an Ethical Way." In Proceedings of the 25th International Conference on Intelligent User Interfaces Companion, pp. 33-34. 2020. *acceptance rate: 34%*

[4] **Xu Han**, and Tom Yeh. 2020. How does your Alexa behave?: Evaluating Voice Applications by Design Guidelines Using an Automatic Voice Crawler. *In Joint Proceedings of the ACM IUI 2020 Workshops, March 17, 2020, 10 pages.*

[5] **Xu Han** and Tom Yeh. 2019. Evaluating Voice Applications by User-Aware Design Guidelines Using an Automatic Voice Crawler. *In Joint Proceedings of the ACM IUI 2019 Workshops, Los Angeles, USA, March 20, 2019 , 4 pages.*

RESEARCH PROJECTS / EXPERIENCES

Optimizing the Data Mixing Algorithm with Domain Adaptation Methods *Sep 2020 - Feb 2021*
Research Scientist Intern, Amazon Alexa AI

- Proposed and implemented optimized data mixing algorithms with domain adaptation approaches to improve the BERT-based domain classification model for Alexa NLU.
- Proposed and experimented with a new data split pipeline based on the optimized data mixing algorithms.
- NLU models with newly proposed data mixing pipeline performed 20% better than the existing one.

Interactive Text Summarization and Aspect Ranking on Production Reviews *May 2020 - Aug 2020*
Data Science and Machine Learning Intern, Seagate

- Designed and implemented a single-doc text summarizer for a social listening tool based on the pointer-generator architecture.
- Proposed and implemented a pipeline to do online review rating prediction. The pipeline included aspect extraction with active learning, aspect based sentiment analysis, user rating prediction modeling and feature ranking.

Digression and Sensitive Information Analysis on Interviewer Chatbot *Aug 2019 - Apr 2020*
Research Assistant, University of Colorado Boulder

- Worked on an evaluation framework of Interviewer chatbot in terms of digression & sensitive information detection (published proposal [3])
- Conducted digression and privacy leakage analysis based on original user-chatbot transcripts using deep learning models
- Designed and implemented an assitive tool for interviewer chatbot designers based on the evaluation framework (published paper [1])

Live Tweets Analysis and Visualization System *Feb 2019 - Apr 2019*
Research Assistant, University of Colorado Boulder

- Implemented a big data framework based on twitter data with Docker, Kafka (streaming processing), Pyspark (sentimental analysis with NLTK), Mongodb, Elastic Search, Kibana (visualization) & Google Cloud.
- A dashboard was built for visualization of sentimental data analysis results using Flask

Alexa Skills Evaluation *Jun 2018 - Sep 2018*
Research Assistant, University of Colorado Boulder

- Developed a voice skill crawler to collect responses data from 45708 Aelxa skills (Python)
- Deployed deep learning models with pre-trained/self-trained embeddings to do Alexa skills' topic classification (PyTorch)
- Analyzed responses data of the most 100 popular Alexa skills and studied these skills' compliance situations of current design guidelines
- Proposed research agenda for future evaluation tool development (published research papers [4][5])

RELEVANT SKILLS

Languages: C, C++, Python, Javascript, HTML & CSS, SQL, MATLAB
System & Library: PostgreSQL, Git, Linux, openGL, D3, Kibana, ElasticSearch, PyTorch
Software: Tableau

SERVICES

ACM CHI Reviewer *2019-2021*
ACM IUI Reviewer *2021*
ACM DIS Reviewer *2021*
ACM IUI Student Volunteer *2021*

AWARDS

Research Expo Award, University of Colorado Boulder *2021*
Publication Recognition Award, University of Colorado Boulder *2020*
Conference Travel Grant, ACM IUI *2020*
Graduate Travel Grant, University of Colorado Boulder *2019*
UTSIP Scholarship, University of Tokyo *2016*
Outstanding Student Scholarship, University of Science and Technology of China *2016, 2015, 2014*
The Best Technology Award, Robogame2015, University of Science and Technology of China *2015*