

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?—Characterizing 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 assistive 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 Alexa 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

AWARDS

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