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

[2] Wang, Yichen, Jason Shuo Zhang, **Han Xu**, 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] **Han, Xu**. "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] **Han, Xu**, and Yeh Tom. 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] **Han, Xu** and Yeh Tom. 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.*

[6] Shiroma, K., Davis, N., Yeh, T., **Han, X.**, Sagna, A., & Xie, B. (2019). Co-Designing eHealth tutorials with and for older adults. *Presented at the Healthier Texas Summit. October 17 - 18, 2019. Austin, Texas.*

RESEARCH PROJECTS / EXPERIENCES

Optimizing the Data Mixing Algorithm with Domain Adaptation Methods *Sep 2020 - Feb 2021*
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 algorithms performed 20% better than with the existing pipeline.

Interactive Text Summarization and Aspect Ranking on Production Reviews *May 2020 - Aug 2020*
Operations and Technology Advanced Analytics Group (OTAAG), Seagate

- Implemented the back-end of an interactive text summarization application based on the pointer-generator architecture and deployed it.
- Proposed and implemented a pipeline to help analyze how different aspects mentioned in a customer's product review will influence his final rating decision.

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

- 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*
University of Colorado Boulder, USA

- 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*
Sikuli Lab, University of Colorado Boulder, USA

- 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

AWARDS

Publication Recognition Award, University of Colorado Boulder	*2020*
Conference Travel Grant, ACM IUI	*2020*
Graduate Travel Grant, University of Colorado Boulder	*2019*
CSC(China Scholarship Council) National Scholarship	*2017*
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*