# Jiepu Jiang, Ph.D.

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**SUMMARY**

**I am a passionate applied researcher enthusiastic about making a real-world impact.**

- 10+ years of research experience in **web search**, **intelligent voice assistants**, and **chatbots**
- 20+ articles on top conferences such as **SIGIR**, **WWW**, **CIKM**, and **WSDM** with 1400+ citations
- Unique skill sets combining **search/ranking**, applied **ML/NLP**, **HCI/UX**, and **statistical analysis**
- 3+ years of experience **leading** and **mentoring** junior researchers

**EXPERIENCE**

**Assistant Professor, Information School, University of Wisconsin–Madison**     Aug 2020–Present
**Assistant Professor, Computer Science Department, Virginia Tech**     Aug 2018–Aug 2020

- Leads a group of 2–4 students on various research projects
    - Designs **explainable search evaluation** methods to help experts diagnose ranking models
    - Compares NLG-based and **search-based text suggestions** in knowledge-demanding writing
    - Analyzed the influence of **health misinformation** on web search users (WWW22)
    - Evaluated response quality and time in **human-AI hybrid chat systems** (CIKM21, SIGIR20)
    - Examined search result summary as an **explainable interface** for search engines (SIGIR19)
- Teaches courses in search/IR, text mining, data analytics, and AI fairness & explainability

**Research Intern, Microsoft Research** (Mentor: Ahmed H. Awadallah)     May–Aug 2014

- Invented prediction models for Cortana (Microsoft's **intelligent voice assistant**)'s **user satisfaction**, **ASR errors**, and **intent recognition quality** using multimodal behavioral data (WWW15, CHIIR16)
- Created models to identify **fine-grained search user satisfaction** levels (WSDM15)

**Research Assistant, University of Massachusetts Amherst** (Advisor: James Allan)     Sep 2013–Aug 2018

- Innovated existing **search evaluation metrics** such as NDCG and ERR to make them align better with **UX measures** (e.g., user satisfaction) using **user modeling** (ECIR16), **search logs and click models** (CIKM17), and **multidimensional search result judgments** (SIGIR17)
- Other projects: distant supervision for definition sentence retrieval (CIKM17); reducing click/skip errors in web search result ranking (WSDM16)

**Research Assistant, University of Pittsburgh (**Advisor: Daqing He**)**     Sep 2009–Aug 2013

- Designed **lab studies** and **eye-tracking** experiments to study search user interaction and interfaces in **voice search** (SIGIR13), **short-term search sessions** (SIGIR14), **exploratory people search interfaces** (CIKM13), **contextual relevance judgments** (CHIIR17), collaborative search systems, etc.
- Improved search ranking using short-term search history (the best-performing system in TREC 2011)

**SKILLS**

**Search:** search quality and UX evaluation (online/offline), dense retrieval/ranking, conversational search

**Machine Learning:** gradient boosting, LambdaMART, transformers, BERT-based ranking models, Seq2Seq

**Causal Inference**: experiments (lab, remote, MTurk, a/b test), GLM, multilevel models, Bayesian inference

**Programming:** Java (15+ years), Python (5+ years), Scala, R

**Tools**: scikit-learn, PyTorch, TensorFlow; NLTK, spaCy, Gensim, CoreNLP; Lucene, Solr, Elasticsearch; pandas, Matplotlib, seaborn, Tableau; Spark, AWS, Azure, BigQuery, SQL & NoSQL databases, etc.

## SELECTED PUBLICATION

*Students I advised or mentored*

**WWW 22**  Qiurong Song* and **Jiepu Jiang**

*How Misinformation Density Affects Health Information Search*

**CIKM 21**  Zihan Gao* and **Jiepu Jiang**

*Evaluating Human-AI Hybrid Conversational Systems with Chatbot Message Suggestions*

**SIGIR 20**  **Jiepu Jiang** and Naman Ahuja*

*Response Quality in Human-Chatbot Collaborative Systems*

**SIGIR 19**  Siyu Mi* and **Jiepu Jiang**

*Understanding the Interpretability of Search Result Summaries*

**SIGIR 17**  **Jiepu Jiang**, Daqing He, and James Allan

*Comparing In Situ and Multidimensional Relevance Judgments*

**CHIIR 16**  Julia Kiseleva, Kyle Williams, **Jiepu Jiang**, Ahmed H. Awadallah, Aidan C. Crook, Imed Zitouni

*Understanding User Satisfaction with Intelligent Assistants*

**WWW 15**  **Jiepu Jiang**, Ahmed Hassan Awadallah, Rosie Jones, Umut Ozertem, Imed Zitouni, and others

*Automatic Online Evaluation of Intelligent Assistants*

**WSDM 15**  **Jiepu Jiang**, Ahmed Hassan Awadallah, Xiaolin Shi, Ryen W. White

*Understanding and Predicting Graded Search Satisfaction*

**SIGIR 14**  **Jiepu Jiang**, Daqing He, James Allan

*Searching, Browsing, and Clicking in a Search Session: Changes in User Behavior by Task and Over Time*

**SIGIR 13**  **Jiepu Jiang**, Wei Jeng, and Daqing He

*How Do Users Respond to Voice Input Errors? Lexical and Phonetic Query Reformulation in Voice Search*

## EDUCATION

**University of Massachusetts Amherst**

- M.S. in Computer Science (2016), Ph.D. candidate in Computer Science (2016–Present)

**University of Pittsburgh**

- Ph.D. in Library and Information Science (2016)

**Wuhan University, China**

- M.S. in Information Science (2009); B.S. in Computer Science (2007), E-Commerce (2007)

## SERVICE

**Senior PC**: WWW (2020–2022), JCDL (2020, 2021)

**PC Member**: SIGIR (2015–2022), CIKM (2014–2020), WWW (2015, 2018), WSDM (2016–2022), KDD (2022), AAAI (2021, 2022), IUI (2015, 2018–2021), ECIR (2014–2022)