# HANSI ZENG

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Homepage ◇ Github

## EDUCATION

**Nankai University, China** — **Bachelor**
Major in Mathematics — 09/2014-06/2018

**University of Wisconsin Madison** — **Master**
Major in Mathematics — 09/2017-06/2019

**University of Utah** — **Master**
Major in Computer Science — 09/2019-06/20021

**University of Massachusetts Amherst** — **PhD**
Major in Computer Science — 09/2021-

## RESEARCH TOPICS

Dense Retrieval, Neural Ranking, Recommender System, Natural Language Processing.

## PROFESSIONAL EXPERIENCES

- **Amazon**, Palo Alto, CA. 05/2023 - 12/2023
  *Applied Scientist Intern, advised by Chen Luo*
- **Lowe's**, Charlotte, NC. 05/2022 - 08/2022
  *Research Intern, advised by Surya Kallumadi*

## PUBLICATIONS

- **Hansi Zeng**, Chen Luo, Bowen Jin, Sheikh Muhammad Sarwar, Tianxin Wei, Hamed Zamani. Scalable and Effective Generative Information Retrieval (Under review)
- Zhiqi Huang, **Hansi Zeng**, Hamed Zamani, James Allen. Soft Prompt Decoding for Multilingual Dense Retrieval. *Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval* (SIGIR'23).
- **Hansi Zeng**, Surya, Kallumadi, Zaid Alibadi, Rodrigo Nogueira, Hamed Zamani. A Personalized Dense Retrieval Framework for Unified Information Access. *Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval* (SIGIR'23).
- 🏆 **Hansi Zeng**, Hamed Zamani, Vishwa Vinay,. Curriculum Learning for Dense Retrieval Distillation. In *Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval* (SIGIR'22). Best Short Paper Award
- **Hansi Zeng**, Zhichao Xu, Qingyao Ai. A Zero Attentative Relevance Matching Network for Review Modeling in Recommnder System. In *Proceedings of the 41st European Conference on Information Retrieval* (ECIR'21), oral presentation, Lucca, Italy, March 28-April 1, 2021.
- Zhichao Xu, **Hansi Zeng**, Qingyao Ai. Understanding the Effectiveness of Reviews in E-commerce Top-N Recommendation. In Proceedings of the 7th ACM International Conference on the Theory of Information Retrieval (ICTIR'21), Virtual, July 11, 2021.

## PROJECTS

**Toolbox for E-commerce Product Search** github repo 09/2019-12/2020
*Independent Study, advised by Professor Qingyao Ai, School of Computing, University of Utah*

- Build a toolbox for e-commerce product search followed by several software design patterns like **abstract factory pattern** to keep the code simplicity, extensibility and readability.
- The toolbox implements several state-of-art models by **TensorFlow** with thorough hyperparameter tuning and performance comparison.
- The main techniques used in the models are **doc2vec**, **attention network**, **knowledge graph embedding**.

**Toolbox for Text Semantic Matching** github repo 04/2020-Present
*Extracurricular Activity*

- Implement several state-of-art text semantic matching models like **RE2**, **CAFE**, **ESIM** using **Pytorch** with performance comparison.
- Organize the the toolbox for easy training, hyperparameter tuning and model extension.

**Toolbox for Review-Based Recommendation System** github repo 05/2020-Present
*Extracurricular Activity*

- Implement several state-of-art for review-based recommendation systems like **NARRE**, **DeepCoNN** using **Pytorch** with hyperparameter tuning and performance comparison.
- Organize the the toolbox for easy training, hyperparameter tuning and model extension.
- Severed as strong baselines for our new proposed model on research.

**Comparative Study of Reinforcement Learning-based and Traditional Motion Planning Algorithms** presentation 09/2020-12/2020
*Course project, advised by Alan Kuntz, School of Computing and the Robotics Center, University of Utah*

- Design the simulation environment based on **racecarGymEnv** from the pybullet to compare the performance between traditional motion planning algorithms and reinforcement learning algorithms.
- Implement **RRT**(Rapidly-exploring random tree), **DQN**, **Reinforce**, **PPO**, and compare their training time, inference time, time to reach the goal in different enviroment settings.

## TEACHING EXPERIENCES

- Teaching Assistant of ECE 3530 Engineering Probability and Statistics Fall 2020, UoU

## SKILLS

**Computer Languages** **Python**/Java/R/C++/JavaScript/MATLAB/Linux/Unix/**TensorFlow**/**Pytorch**
**GRE** Verbal:153, Quantitative:168, Analytical Writing: 3.0

## AWARDS

Second-class Scholarship, Nankai University 2015-2016
University Student Table Tennis Team Competition in Tianjin(ranked 3rd of 21 universities) 2016