

Dake Zhang

MASTER'S CANDIDATE IN COMPUTER SCIENCE

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Education

Cheriton School of Computer Science, University of Waterloo

Waterloo, Canada

Master of Mathematics in Computer Science

Sep. 2020 - Aug. 2022 (Exp.)

- Fully Funded Thesis-based Master's Program, GPA: 93.75/100
- Supervisor: Prof. Mark Smucker
- Research Interests: Information Retrieval, Natural Language Processing
- Thesis Topic: Reducing Health Misinformation in Web Search Engines
- Courses: Introduction to Machine Learning, Fundamentals of Optimization, Advanced Topics in Databases - High Recall Information Retrieval, Advanced Topics in HCI - Educational Technology

School of Computer Science, Wuhan University

Wuhan, China

Bachelor of Engineering in Software Engineering

Sep. 2016 - May 2020

- GPA: 3.85/4.0 (91.38/100)
- Supervisor: Prof. Bo Han
- Thesis: Application of Topological Data Analysis on Word Embeddings
- Courses: Advanced Mathematics, Linear Algebra, Discrete Mathematics, Probability Theory and Statistics, Database Systems, Compilation Technology and Applications, Human-Computer Interaction, Software Engineering

Research Experience

Information Retrieval Group & Data Systems Group, University of Waterloo

Waterloo, Canada

Graduate Research Assistant supervised by Prof. Mark Smucker

Sep. 2020 - Present

- Helped organize and participated in the TREC (Text REtrieval Conference) Health Misinformation Track (2020 and 2021).
- Submitted a run ranked at No.3 among 30 runs at reducing misinformation in the TREC Misinformation Track 2021.
- Worked on T5-based zero-shot stance detection models to help identify web pages with misinformation.

Big Data Group, Wuhan University

Wuhan, China

Undergraduate Research Assistant supervised by Prof. Bo Han

Mar. 2018 - May 2020

- Undergraduate Thesis: Combined Convolutional Neural Networks and Topological Data Analysis techniques to discover writing styles of different authors for the Authorship Attribution task, which achieved great performance on long texts.
- Utilized Topological Data Analysis to create an Early Warning System for detecting structural disturbances in the Chinese stock market and predicting possible stock market crashes.

EdTeKLA Research Group, University of Alberta

Edmonton, Canada

Mitacs Globalink Undergraduate Research Intern supervised by Prof. Carrie Demmans Epp

Jun. 2019 - Sep. 2019

- Improved visualization of student's activities on the online learning platform.
- Developed an extractive summarization model to select summary sentences from posts and replies in the discussion forum.

Industry Experience

Recommender Systems Group of Douyin (TikTok China), ByteDance

Beijing, China

Machine Learning Intern mentored by Keyang Zhang and Xuecheng Yang

May 2020 - Sep. 2020

- Assisted in adjusting the Recommender System to support the launch of Friend Tab.
- Experimented and deployed personalization strategies to promote interactions (e.g., liking, commenting, sharing, etc.) among friends.
- Applied Machine Learning algorithms to predict the intimacy among users, which improved friend interactions per user by 1%.

Teaching Experience

Cheriton School of Computer Science, University of Waterloo

Waterloo, Canada

Teaching Assistant

May 2021 - Present

- CS 486/686: Introduction to Artificial Intelligence, delivered by Prof. Alice Gao, [Spring 2021, Fall 2021, Winter 2022]

Publications

UWaterlooMDS at the TREC 2021 Health Misinformation Track

Mustafa Abualsaud, Irene Xiangyi Chen, Kamyar Ghajar, Linh Nhi Phan Minh, Mark D. Smucker, Amir Vakili Tahami, **Dake Zhang**
(in alphabetical order)

Text REtrieval Conference (TREC), 2021, To appear

Learning Trustworthy Web Sources to Derive Correct Answers and Reduce Health Misinformation in Search

Dake Zhang, Amir Vakili Tahami, Mustafa Abualsaud, Mark D. Smucker

SIGIR, 2022, In Submission

Honors & Awards

HONORS

2020	Outstanding Graduate , Wuhan University	<i>Wuhan, China</i>
2017, 2018, 2019	Outstanding Student , Wuhan University	<i>Wuhan, China</i>
2017, 2018	Active Participant in Social Activities , Wuhan University	<i>Wuhan, China</i>

AWARDS

2021	Globalink Graduate Fellowship (15k CAD) , Mitacs	<i>Vancouver, Canada</i>
2019	Globalink Research Internship (5.7k CAD) , China Scholarship Council & Mitacs	<i>China & Canada</i>
2017, 2019	Scholarship for Exemplary Student (1k CNY) , Wuhan University	<i>Wuhan, China</i>
2018	Scholarship for Outstanding Student (2k CNY) , Wuhan University	<i>Wuhan, China</i>

Skills

Programming	Python, Java, R, C, C++, JavaScript, PHP, C#
Tools	Git, PyTorch, Linux
Languages	Chinese (native), English (TOEFL 110/120, GRE 332/340)