

# Zheng Wang

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## Education

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### Concordia University, Montreal

Sept 2020 – Apr 2025

Master of Applied Science Information Systems Security

(Thesis-based, research focuses on Probabilistic Machine Learning)

- **GPA:** 3.93/4.3
- **Research:** Probabilistic Machine Learning, Topic Models, Approximate Bayesian Inference, Mean-Field Variational Inference and Expectation Propagation
- **Thesis:** Vectorized Bayesian Inference for Latent Dirichlet-Tree Allocation: Theory, Computation and Application
- **Typical Courses:** Cryptography, Cryptographic Protocols and Network Security, Operating Systems Security, Security and Privacy Applications in Data Mining, etc.

### Taiyuan University of Technology (211 University China)

Sept 2014 – June 2018

Bachelor of Engineering Electronic Science and Technology

- **Typical Courses:** Calculus, Linear Algebra, Probability and Statistics; Electric Circuit Analysis, Analog and Digital Circuit, Signal and System; Quantum Mechanics, Semiconductor Physics; Computer System and Architecture, Data Structure and Algorithm, Computer Network, etc.
- **Dissertation:** A MNs-AgNWs-based Magneto-elastic Biosensor

## Publications

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### As first author and representative work:

- [1] **Zheng Wang** and Nizar Bouguila. “Vectorized Bayesian Inference for Latent Dirichlet-Tree Allocation”. In: *Journal of Machine Learning Research* (2025). **Submitted, in review. Preprint Ready.**

### As joint author:

- [2] Bao Sun, Jin-Gang Yang, Zhe Wang, **Zheng Wang**, Wei Feng, Xing Li, Sheng-Nan Liu, Jiang Li, Ya-Qin Zhu, Ping Zhang, and Wei Wang. “Exon junction complexes regulate osteoclast-induced bone resorption by influencing the NFATc1 m6A distribution through the “shield effect””. In: *Clinical and Translational Medicine* 15(3), 2025
- [3] Jin-Gang Yang, Bao Sun, **Zheng Wang**, Xing Li, Jia-hui Gao, Jia-jun Qian, Jiang Li, Wen-jia Wei, Ping Zhang, and Wei Wang. “Exosome-targeted delivery of METTL14 regulates NFATc1 m6A methylation levels to correct osteoclast-induced bone resorption”. In: *Cell Death & Disease* 14(11), 2023

## Experience

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### Software Developer

Montreal, Quebec

Reelcruit

Sept 2021 – Sept 2022

- Design and development of a technology consultants placement system, with a matching tool saving 2 days of work and 33% of recruitment budget
- Development of a Job-Resume Bidirectional Matching and Recommendation System based on Latent Dirichlet Allocation (LDA) Topic Machine Learning Model
- Data preprocessing and cleaning
- Development of API for database and user interface
- Tools: Python; Gensim, Pytorch; Docker; PostgreSQL; Linux(RHEL, Ubuntu), Bash Shell Scripting; Git, Bitbucket, Jira

## Research Assistant

*eXplainable Artificial (XAI) Lab, Concordia Institute for Information Systems Engineering*

*Montreal, Quebec  
2021 – 2024*

- Joined research and engineering of Machine Learning and AI systems
- Worked on conference and journal paper
- Natural Language Processing (NLP) and Computer Vision (CV)
- Tools: Linux(Ubuntu, Fedora, Arch Linux), Shell scripting, Vim, Git, Conda; Python, Numpy, Pandas, Matplotlib, Pytorch, Tensorflow; R; C/C++; MySQL, SQL Server; Latex, Markdown, PowerPoint; Visual Studio, Visual Studio Code, Pycharm, Jupiter Notebook

## Software Engineer

*Shanxi Winning Software Group*

*Taiyuan, China  
2019 – 2020*

- Software development of Healthcare and Medical Information Systems, including hospital registration system, pharmacy management system, etc.
- Implementation, installment, and maintenance of information systems in hospitals
- Worked in hospital for up to 72 hours continuously without sleeping; communication with doctors and nurses, understanding healthcare and medical demands, client support for doctors and nurses
- Tools: C#, .Net framework, SQLServer, WebAPI; Client support; Good Communication Skills; Strong body capable of working without sleep and immunity to viruses and infectious diseases

## Network Engineer Intern

*Hwadee Information Technology*

*Chengdu, China  
2018*

- Network device configuration and management, configuration of Cisco routers and switches
- Device monitoring and maintenance, management of IP addresses, subnet masks, and routing tables, etc.
- Network security management, implementation and management of firewall, IDS and VPN
- Tools: Cisco Packet Tracer, Wireshark, Kali Linux

## Skills

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**Languages:** Assembly, C/C++, Java, C#, Python, R, bash

**OS and Utilities:** Linux (RHEL, Ubuntu, Arch Linux, Kali), bash shell, git, conda, Cmake, gdb, docker

**Framework and Database:** .NET, Microsoft SQL Server, MySQL, PostgreSQL

**Data Science:** Pandas, Matplotlib, Numpy, Scipy, Pytorch, Tensorflow, Scikit-Learn, Gensim

**Other:** Matlab, Latex, Microsoft Offices

## Personal Statement

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I am a friendly and helpful person who always integrates quickly into teams with a strong teamwork spirit. I am a fast learner and maintain a habit of lifelong learning. I have a strong body for working endlessly. Thank you for your kind consideration.