# Zikun Fu

📍 Oshawa, Ontario　　✉ Zikun.Fu@ontariotechu.net　　📞 (437) 922-1214　　in LinkedIn　　○ GitHub

🔗 About Zikun

## Summary

Graduate student in Information Science with over 4 years of experience in object-oriented programming, focusing on machine learning, databases, and natural language processing. Inquisitive and driven, with a passion for bridging technology with human understanding.

## Skills

**System Administration**
- Proficient in Linux-based environments (Ubuntu)
- Experience with Docker and Docker Compose for containerization and deployment
- Automation scripting with Python and Bash

**AI/ML and Data Science Expertise**
- Frameworks: TensorFlow, PyTorch, Hugging Face Transformers
- Experience: Fine-tuning, model evaluation, and embedding-based semantic search
- Tools: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn
- Applied AI/ML techniques to improve performance and streamline processes

**Programming & Database Management**
- Languages: Proficient in Python, SQL, Java
- Tools: SQL, PostgreSQL, MySQL, MongoDB
- Expertise: Database design, query optimization

**Collaboration & Version Control**
- Tools: Git, GitHub
- Methodologies: Agile (Scrum, Kanban), Test-driven development (TDD), CI/CD practices
- Strong teamwork and communication skills

**Other Skills**
- Strong problem-solving abilities and algorithmic thinking
- Proficient in Jupyter Notebook, VSCode, and Linux environments
- Self-motivated and proactive in identifying and solving technical challenges

## Education

**Ontario Tech University** *Sept 2019 - April 2023*
*Bachelor of Science (Hons) Computer Science, Specialization: Data Science*
- GPA: 3.86/4.3
- Achievements: President's List, Dean's List (3 consecutive years)
- Diploma: View Here ↗

**Ontario Tech University** *Exp. Graduation: 2025*
*Master of Information Science*
- Focus: Machine Learning, Database, Natural Language Processing
- GPA: 4.15/4.3

## Projects

**Grex.eilab.ca Migration Project**                                      *2024 Winter*
*Lead Developer*

- Planned the development strategy, timeline, and technical requirements for migrating grex.eilab.ca to a new application platform
- Designed a comprehensive roadmap to facilitate the migration, focusing on maintaining functional parity and improving scalability
- Currently working on the migration and deployment process
- Ensuring high availability and streamlined functionality in the new platform while maintaining data integrity and user experience

**Closed Domain Named Entity Recognition**                                    *2024 Fall*
*Master's Thesis   (Abstract ↗)*

- Developed a pipeline to convert text-to-SQL datasets (BIRD, Spider) into benchmarks for Closed-Domain Named Entity Recognition (CD-NER)
- Enhanced domain-specific NER by creating evaluation resources for large, fixed entity pools
- Presented findings at Ontario Database Day 2024 (University of Waterloo), fostering discussions on advancing database-grounded NLP

**Semantic Search Using Embedding Models**                                  *2024 Spring*
*Co-principal Investigator   (Github ↗)*

- Evaluated state-of-the-art embedding models with domain-specific instructions for improved semantic representation
- Utilized advanced techniques to fine-tune models, resulting in improved accuracy and relevance in search results
- Gained proficiency in embedding techniques and their application in real-world scenarios

## Work Experience

**GREx Redevelopment Project Manager**                              *Dec 2024 - Present*
*The Educational Informatics Laboratory (EILab), OTU*

- Leading migration of the GREx architecture from Symfony/Laravel to a Dockerized environment using LimeSurvey and MySQL
- Configured and maintained Linux-based VMs (DigitalOcean Droplet) for testing and deployment using Docker Compose
- Implementing a unified, containerized system architecture to enhance consistency and reduce maintenance complexity
- Collaborating with stakeholders to define system requirements and achieve functional parity with the existing GREx platform

**Research Associate**                                              *Jan 2024 - Present*
*Ontario Tech University*

- Supporting supervisor with various research projects, including closed-domain named entity recognition and semantic search
- Investigating embedding model performance with domain-specific instructions
- Assisting in designing experimental setups, data collection, and evaluation

## Volunteer

**TED Translators**                                                            *2018*
*Volunteer in Subtitle Translation*

- Translated and edited subtitles for TED and TEDx talks, published on TED.com
- Developed strong collaboration and adaptation skills through online teamwork