

Tianjia Wang

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EDUCATION

Virginia Tech

USA

Ph.D. in *Computer Science*

Aug 2021 – Now

GPA: 4.00

Rochester Institute of Technology

USA

M.S. in *Software Engineering*

Aug 2019 – May 2021

GPA: 3.89

Rose-Hulman Institute of Technology

USA

B.S. in *Computer Science*

Sept 2015 - Aug 2018

Minor in *Japanese*

GPA: 3.01

Miami University

USA

B.S. in *Computer Science*

Aug 2013 - May 2015

GPA: 3.61

RELEVANT COURSEWORK

- Design and Analysis of Algorithms
- Computer Architecture I, II
- Operating Systems
- Model-Driven Development
- Collaborative Software Development
- Software Quality Assurance
- Software Architecture
- Engineering Cloud Software Systems
- Engineering Self-Adaptive Software Systems
- Programming Language Concepts
- Theory of Computation
- Research Methods
- Artificial Intelligence
- Machine Learning
- Modeling Human Perception Data
- Natural Language Processing
- Statistics in Research
- Computational Social Science

PUBLICATION

Eman Abdullah AlOmar, Philip T. Rodriguez, Jordan Bowman, **Tianjia Wang**, Benjamin Adepoju, Kevin Lopez, Christian Newman, Ali Ouni, Mohamed Wiem Mkaouer. “How Do Developers Refactor Code to Improve Code Reusability?” The 19th International Conference on Software and Systems Reuse (ICSR), 2020

Eman Abdullah AlOmar, **Tianjia Wang**, Raut Vaibhavi, Mohamed Wiem Mkaouer, Christian Newman, and Ali Ouni. 2021. “Refactoring for Reuse: An Empirical Study.” *Innovations in Systems and Software Engineering* (2021), 1–31.

RESEARCH EXPERIENCE

Chinese Academy of Sciences

Nov 2018 – June 2019

Research Assistant

Department of High-Performance Computing

- Researching key node detection algorithms for the project RAID Card Bottleneck Analysis and Performance Modeling which aims to build an open-source benchmark tool for performance visualization and prediction
- Implementing and optimizing an algorithm for finding RNA sequences similarity in the research paper “Accelerated Structural Design for Graphical Based Genetic Similarity Algorithm”

WORK EXPERIENCE

Sogou Inc.

May 2015 - July 2015

Quality Assurance

Department of Sogou Map

- Unit/Functional/Stress testing for several features in Sogou Map Android application
- Excelled in finding, documenting and reporting bugs, errors, interoperability flaws and other issues
- Consistently recognized for excellent problem-solving and analytical skills by developers, project managers and supervisor

COURSE PROJECT

Analyzing Gender Biases and Stereotypes in Multilingual News

- Proposing a framework using word2vec and dependency parsing to analyze the biases and stereotypes in multilingual news.
- Conducting an experiment by applying this framework to an existing multilingual dataset that contains news articles from BBC in English, Chinese and Japanese, then analyzing the gender biases and stereotypes in occupation and appearance and how each gender is usually described in news in different languages.

SemEval 2022 Task 8: Multilingual News Article Similarity

- Designing and implementing a framework to estimate the overall similarity of news articles
- Proposing an algorithm that completes the task by using language-level distance differences in word embedding to allow training with only English data and apply to other languages
- Using SOTA models such as BERT-NER, Stanford CoreNLP, and DistilBART to extract helpful information about geography, entity, time, and narrative

Multimodal Song Emotion Recognition with Audio and Dynamic Facial Expression

- Extracting audio features from song and action units from video(facial expression) in the Ryerson Audio-Visual Database of Emotional Speech and Song
- Training Random Forest and CNN model to identify six emotions
- Performing statistical analysis on the results to evaluate the performance of the multimodal solution

Smart Home Manager

- Designing and implementing a cloud-based solution to enable users to control devices across different protocols in one easy-to-use web application
- Using CloudFormation to efficiently allocate and manage the resources in AWS by treating infrastructure as code

UML Generator

- Creating a tool to generate the most essential elements of the UML class diagram for arbitrary Java code: classes, methods, instance variables, and inheritance arrows.
- Responsible for analyzing the requirement, drawing the UML diagram, designing the prototype, and implementing unit tests for the parser and the relation finder.

HONORS AND AWARDS

- Graduate Merit Scholarship from Rochester Institute of Technology
- International Student Scholarship from Rose-Hulman Institute of Technology

SKILLS

- Programming Language: Java, Python, C, C++ and Pascal
- Web Development: JavaScript, Node.js, HTML, CSS
- Database: SQL Server, Firebase, MongoDB, DynamoDB
- AI: PyTorch, scikit-learn, TensorFlow
- Natural Language: Chinese(native), English(fluent), Japanese(intermediate)
- Mobile Development: Android
- Web Framework: React, Flask
- Operating System: Windows, Linux
- Script: Shell Script, TypeScript