Zizhun GUO **Co-op Summer/Fall 2020**

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EDUCATION

Rochester Institute of Technology Rochester, NY Expected **Dec 2020**

Master of Science in **Computer Science**

Relevant Courses: Data Mining (Python), Web Services (Java, SOAP, Restful), Database Systems Implementation Data Structure and Algorithm (Java), Object Oriented Programming (Java)

Master of Science in Game Design and Development Rochester, NY Earned May 2018

Relevant Courses: Gameplay Prototyping (C#), Artificial Intelligence for Gameplay (C#), Game Development Processes, Capstone Design and Development (C#)

Chengdu University of Information Technology Chengdu, China Earned Jun 2016

Bachelor of Engineering in Electronic and Information Engineering

RELEVANT EXPERIENCES

Big Data Analytics: Data Mining (Python, NumPy, Pandas, Matplotlib) Jan 2020 - present

Academic Projects

- Project: Implementation on models to predict amount of gallons gas per mile based on car GPS dataset
- Metaprogram by training models in mentor program produces a trained program for validation and prediction
- Clustering data set using Otsu method with lowest cost and regularization for improved threshold decision
- To be updated K-Means, Agglomerative, Fuzzy Clustering, EM, Decision Trees, Association Rules, k-NN, SVM

Web Services and Services Orientated Computing (Java, SOAP, RESTful, XML) Jan 2020 - present

Academic Projects

- Project: Develop a web of things app of music playing in public environment based on Spotify API
- Implement 1 SOAP and 2 RESTful APIs to create a Web application
- To be updated: Develop an API using MongoDB to manage data related service
- Develop an API to provide Data Mining related service i.e. Classification/Clustering

H2 Database System Feature Enhancement (Java H2) Oct 2019 – Nov 2019

Academic Project

- Enhance the feature relating to data storage and indexing by adding a password data type.
- Assist to enhance the feature of aggregation function selecting first value in a sorted order.

Computer Graphics Implementation (C++, OpenGL) Sep 2019 – Dec 2019

Academic Project

- Implement the classic computer graphics algorithms like polygon filling, window clipping
- Perform 2D/3D all types of transformations through pipeline and implement tessellation for primitive shapes
- Implement lighting Flat/Phong shaders for local illumination and texture mapping for improved visual effects
- Build up a framework to synthesize an image with 10+ models with 3 types of shaders and 2 mapped textures

MySQL Database Development (Java) Jan 2019 – March 2019

Academic Project

- Established ER models on IMDB dataset and created the tables on MySQL benchmark
- Initiated queries scenarios into SQL statements
- Helped to design the Java program to implement the database with UI

Compiler Construction for Haskell-like language to JVM code (Clojure, Emacs, JVM) March 2019 - May 2019

Academic Project

- Accomplished using Clojure (Lisp dialect) to implement a compiler of a Haskell-type language Alto with large grammar. The code generated by it can be run on Java Virtual Machine
- Implemented a LL(1) parser that constructed a two-stacks structure for semantic analysis

OTHER EXPERIENCE

Student Employee at Bytes on The Run August 2017 – May 2018

Student work, Rochester Institute of Technology

- Conducted transactions for customers, conduct inventory and restocking

SKILLS

Java (1 yr), Python (1 yr), C/C++ (1 yr), C# (3 yrs), XML, HTML, CSS

VSCode, NetBeans, IDEA, Visual Studio, Sublime Text, Unity 3D, SourceTree, Git, Jekyll, Bootstrap