Christopher Mollise

Software Developer Experienced in Object-Oriented Programming and Game Development with a Passion for Creating Innovative Software Solutions

2800 Enterprise Road, Reno, Nevada, 89512, United States | 1 702-686-1479 | ChrisJMollise@gmail.com
Website: www.chrisjmollise.com | GitHub: chrisjmollise

Education

UNIVERSITY OF NEVADA, RENO|BACHELOR OF SCIENCE IN COMPUTER SCIENCE
MAY 2020

- Bachelor of Science in Computer Science and Computer Engineering
- Minor in Mathematics
- Program dedicated to the theory, abstraction, and design of computing systems with a C/C++ focus.
- Research project using Unreal Engine to create simulated environments for image processing.
- "Automated Rock Fragmentation Size Analysis," Mining Automation and Robotics Lab, Department of Mineral Engineering

Technical Abilities

PROGRAMMING LANGUAGES

- Proficiency in C/C++.
- Experience in C#, HTML/CSS, JavaScript
- Development experience with Unreal Engine, Unity, Vue.JS

SOFTWARE

- Understanding of version control using Git and Github and developing in a Scrum environment.
- Knowledge of Visual Studio, Eclipse, WebStorm, GNU/GCC, npm for development.
- Proficiency in Adobe Photoshop and Illustrator with several years of experience.
- Experienced with Blender, Solidworks, OnShape, EngraveLab, Artec Studios 12/13/14.
- Proficiency in Microsoft Office and Google Drive suites.

TECHNOLOGIES

- Proficiency with laser cutters including the Epilog Helix and Dremel Digilab as well as 3D printers such as the LulzBot Taz 5, Stratasys uPrint SE Plus and Sintratec sintering printer.
- Proficient with 3D Scanning for 3D Printing, Modeling, and Digital Art with the Artec Eva and Spider.

Relevant Coursework

SENIOR CAPSTONE

- Completion of a year-long senior project using an agile development approach.
- Final project entailed the creation of a professional website for use by an angel investment group.
- Utilized technologies include:
  HTML/CSS, JavaScript, Vue.js, Vuex, Express, Mongoose, MongoDB, and AWS

COMPUTER COMMUNICATION NETWORKS

- Course designed to provide the basic principles of data communication and computer networks.
- Emphasis on understanding the OSI model and data communication at different protocol layers.
- Final project implementing and evaluating a wireless ad hoc network using ns-3 Network Simulator.

SOFTWARE ENGINEERING

- Study of the software development process from elicitation to implementation.
- Emphasis on different software development techniques and the use of different development approaches.
- Familiarity with Agile methodologies and working in a Scrum development environment.

AUTOMATA AND FORMAL LANGUAGES

- Analyzation of the fundamentals of computing through finite-state acceptors.
- Fundamental concepts include uses of grammars, languages, and machines in complex computation.
- Theory utilized in explaining the fundamental ideas of a Universal Turing Machine and its applications.

EVALUATION OF VIRTUAL REALITY

- Evaluation of the technical and physiological problems associated with virtual reality.
- Understanding of optical aberrations and neurological effects when using VR.
- Creation of a virtual reality tour application for students with motor impairment using the Unity Engine.

PROGRAMMING LANGUAGES, CONCEPTS, AND IMPLEMENTATION

- Examines the fundamental principles of programming languages and their implementations.
- Demonstrates key differences in languages and the process of choosing the proper language for a task.
- Projects utilizing Scheme, Prolog, ML, and Java.

ANALYSIS OF ALGORITHMS

- Analysis and design of different algorithms and algorithm functionality and complexity.
- Use of algorithms to solve problems in various data structures such as sequences, sets, graphs, and trees.
- Algorithm design surrounding various data sets and dynamic programming.

INTRODUCTION TO HUMAN-CENTERED DESIGN
- Introduction to the processes of human-centered and empathetic design with a focus on engineering.
- Assessment of different design principles and processes for the creation of wanted products.
- Creation of a final product utilizing various manufacturing and prototyping methods.

DATABASE MANAGEMENT SYSTEMS
- Overview of existing database systems and the processes of data manipulation.
- Study of different forms of relational databases and management systems such as INGRES.
- Implementation of a database using C++ based on SQLite.

ENGINEERING COMMUNICATION AND SOCIETAL INTEGRATION
- In-depth analysis of engineering and is integration and implementation in society.
- Practical application of communication and problem-solving techniques.
- In classroom implementation of a K-12 curriculum to teach a fundamental science topic.

ANALYSIS OF DATA STRUCTURES
- Study of various data structures and their functionality in representing formation.
- Demonstrations of abstract data concepts such as complexity and Big O notation.
- Implementation of various data structures such as Lists, Trees, and Graphs using C++.

FUNDAMENTALS OF GAME DESIGN
- Introduction to the process and technical practices used in the game design industry.
- Implementation of shader and gameplay programming in Unreal Engine.
- Completion of a full game in Unreal Engine using both the blueprint system and C++ programming.

GAME ENGINE ARCHITECTURE
- Overview of the technical elements of a game engine as well as the game design pipeline.
- Creation of a full 3D game engine using the open-source Ogre graphics engine.
- Completion of a full game using Ogre and Unity.

GAME THEORY
- Study of user choice and decision making using various mathematical models.
- Theoretical modeling and use of different solution concepts to find best decisions.
- Course focused on Nash Equilibrium, matrix/bimatrix games, minimax theorem, and TU/NTU solutions.

Professional Experience

CHILDREN'S LEARNING ADVENTURE | SUMMER PROGRAM TEACHER **2017**
- Summer program teacher for ages seven to twelve.
- Implemented curriculum focused on:
  Scientific exploration, computer technology, artistic expression, and academic excellence
- Demonstrated technology and engineering activities focused on natural phenomena.

DELAMARE LIBRARY MAKERSPACE | MAKERSPACE TECHNICIAN **2018-2020**
- Technician and consultant on a variety of product production technologies.
- Aided in the implementation, maintenance, and training of equipment including:
  3D Printers, 3D Scanners, and Laser Cutters
- Provided community consultations on a variety of software including:
  Solidworks, OnShape, Blender, Photoshop, and Illustrator.