Michael **Duncan**

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Experience

CognitiveTPG – Software Test Engineer 06/18 – 10/20

- Develops software that facilitates automating and streamlining software and hardware testing
- Contributes bug fixes, improvements, and changes to production-level and consumer-grade software
- Creates software programs that directly control and interface with point-of-sale and retail devices
- Provides technical support for internal IT-related issues and helps resolve general customer issues
- Designs and implements comprehensive test processes with thorough coverage and data collection
- Arbitrates discussions in establishing solutions between engineering, QA, and other departments

CognitiveTPG – Contract Work 01/21 – Current

Education

SUNY Broome Community College Binghamton, NY

A.S. Computer Science 08/15 – 05/18
GPA: 3.86 Honors Graduate
Dean’s List and President’s List All Semesters
Phi Theta Kappa Honor Society Volunteer Tutor

Expertise

Languages

- Proficient – C, C++, C# .NET, Java
- Adept – SQL, JavaScript, HTML, CSS
- Familiar – Python, PowerShell, Xamarin

Technologies

- Proficient – Unix, Windows, Visual Studio, .NET
- Adept – Git, Regex, MySQL, Office, OpenGL
- Familiar – SVN, Eclipse, Apache, VMWare

Professional Development

Procedural Terrain Generator C, C++, OpenGL

- Generates a terrain mesh surface using simplex noise and a triangulation algorithm with height-maps
- Implements an efficient rendering schema that utilizes spatial partitioning for endless terrain creation
- Utilizes linear algebra to create a 3D first-person camera that collides with terrain mesh surface

Reversi Game with AI Solver C, SDL, OpenGL

- Operates a challenging AI opponent that plays Reversi competitively against a human player
- Selects game moves based upon results from a recursive look-ahead alpha-beta pruning algorithm

Handwritten Digit Recognition Java, Swing

- Trains a statistical machine learning model using preprocessed images containing handwritten digits
- Establishes predictions on values of new handwritten digits using the perceptron learning algorithm

3D Dungeon Generator C++, OpenGL, GLFW

- Generates a procedural and unique 3D dungeon using a complex tile generation algorithm

Personal Website HTML, CSS, JavaScript

- Displays my personal portfolio on the following website: **mkduncan.github.io**