Andrew Morrison

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Clearance: Interim Secret

Education

Bachelor's in Computer Science
Worcester Polytechnic Institute '20
GPA: 3.50

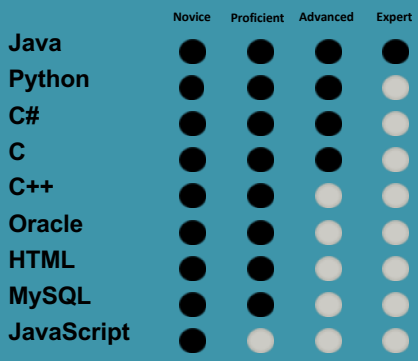
Awards

Dean's List A-B Term 2019
Dean's List C-D Term 2019

Resume Website:

andrewrm98.github.io

Programming Languages



Software Development

Agile, GitHub, Gradle, UML, SceneBuilder, Xamarin Forms

Other

Windows, Mac, Linux, Unity, ZBrush, OnShape, Game Maker 2, Slack, Visual Studio, Android Studio, IntelliJ, PyCharm

Relevant Classes

WebWare (Fall 2019)
Data Mining (Fall 2019)
BioVisualization (Fall 2019)
Artificial Intelligence
Advanced Computer Networks
Database Systems II
Database Systems I
Foundations of Data Science
Probability
Statistics
Computer Networks
Software Engineering
Operating Systems
Foundations of Computer Science
Machine Organization
Object-Oriented design concepts
Systems Programming Design

Work Experience

Communications GUI Developer: MITRE, Summer of 2019

- Worked with a team supporting a government-sponsored project to simulate a communications system, and analyze the effect of change within that system
- Primary developer of message creation and transmission emulator that was implemented in the overarching model to inject messages into the simulation
- Leveraged GitHub, Gradle, Google Protocol Buffers, Google Remote Procedure Calls, Model View Controller design, software design patterns, and JSON & CSV files
- My project had the following impacts: providing reference for the sponsor who is familiar with the emulated software, and adding functionality to the simulation

Class Related Projects

Permaculture Design Plan: Interactive Qualifying Project, WPI

- Spent seven weeks on a team of four to design a permaculture farm plan for a domestic abuse victims' shelter in Cuenca, Ecuador
- Stakeholder engagement with the administration and residents was essential
- Delivered a step-be-step multi-year plan that creates a sustainable and adaptive landscape for the shelter, and engages the residents in agriculture

Bomberman Artificial Intelligence - Python: Artificial Intelligence, WPI

- Worked on a team of four to develop an AI to play the video game Bomberman
- Created an AI and used Q-Learning, a technique that rewards or punishes the AI for certain actions, to learn and defeat a variety of scenarios within the game

Android App Identification (ML) - Python: Adv. Computer Networks, WPI

- By using a TinyCore gateway and Android VM, we were challenged to capture network traces from Android Apps and identify them using Machine Learning
- Read research papers to find the best features (such as packet size) to vectorize
- Developed packet capturing software to parse transmitted packets and capture meta data
- Experimented with multiple learning algorithms like linear regression, tree learn, and clustering to leverage our vectors and get the greatest accuracy

Hospital Pathfinding Application – Java: Software Engineering, WPI

Competed on ten-person student teams over a period of seven weeks. I applied Agile development methodologies and software design patterns in Java to create an indoor pathfinding application, map builder, and integrated service request modules for Brigham & Women's campus.

- As assistant lead software engineer, I gathered software requirements through surveys, interviews, brainstorming, creating user stories, scenarios and storyboards. I was responsible for designing and writing the database subsystem of the application.
- Our team successfully delivered the application. We were recognized for:
  - Iteration 3 & 4: Best feature – Emergency system & Android application

Voluntary Projects

MITRE Hackathon: MITRE (Team of seven over 24 hours)

- Competed in the Serious Game Challenge to build an educational video game
- Used Game Maker 2 to implement a bee colony collapse awareness game
- Won an award for presentation skills and creativity

MITRE 3D Printing Challenge: MITRE (Team of four over 6 weeks)

- Designed and printed an automatic and ergonomic knife for people with arthritis as part of the accessibility challenge
- Our design was added to MITRE's prosthetics lab library

Unity Game Development – C#: Udemy Online Course
C# Masterclass – C#: Udemy Online Course
Build Real World Apps with Xamarin Forms – C#: Udemy Online Course

Philanthropy & Activities

St. Jude Children's Research Hospital
Tau Kappa Epsilon Fraternity
2nd Varsity Coxswain of WPI Crew Team
Ski and Snowboard Club
REACT/Mixed Martial Arts Club
Social Chairman of Tau Kappa Epsilon

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