Zachary Ryan Comstock

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Programing Languages

- Very skilled with *C* , C++ for desktop applications and *C#* for *webservers*.
- Fairly experienced with *HTML, JavaScript, ECMAScript, AngularJS, React, MySQL, MongoDB, JSX, jQuery,* and *Python*.

Machine Learning

- Experience using various *Neural Network* libraries in *C++* and *python*.
- Use *Hyperparameter* tuning to ensure faster training times (*Grid Search, Random Search*)
- Analyzing and decomposing *big data for NN input layers*.

Technical Skills

- *GhostHub, GitHub, Team Foundations,* and *Tortoise SVN* for version control.
- Debugging in *Visual Studios* and *codeLite* IDEs.
- *Protobuf, JSON, XML, CSV*
- *MVC* and *.NET Core*.

Education

Kennesaw State University, Kennesaw, GA
Bachelors of Science in Software Engineering, Fall 2018

Relevant Work Experience

Blizzard Entertainment – Irvine, CA **May 2017 - August 2017**
Software Engineer Intern

- Designed and created tools in C++ to gather and extract training data directly from the StarCraft II game engine
- Assisted with the development of Blizzard / Deepmind's public AI API (C++, ghosthub/CVS for version control)
- Designed and performed grid search and random search for tuning the hyperparameters of neural networks

Kennesaw State University – Kennesaw, GA **August 2016 - May 2017**
Teaching Assistant

- Teach students the concepts and implementation of various data structures in C++ (Linked Lists, Binary Trees, Hash Tables, ect..)
- Guide students through the coding process during scheduled tutoring hours
- Provide the professor with assistance and feedback during class time

Scientific Games – Alpharetta, GA **May 2016 - August 2016**
Software Engineering Intern

- Discussed and identified software, business, and development requirements for upcoming projects
- Used Microsoft's MVC framework (C#, AngularJS, HTML5, CSS) to develop fully functional web-based data analytics application for tracking and prediction lottery sales.
- Performed white box testing on embedded C++ program files

E-Ring – Alpharetta, GA **November 2014 - June 2015**
Software Tester Intern

- Documented and reported bugs, errors, interoperability flaws and other issues within proprietary software applications developed for E-Ring's global user base
- Used methodical, detail-oriented and thorough approach to all assignments while adhering to compressed timelines
- Completed all assignments on or ahead of schedule

Personal Projects

- Used *Reinforcement Learning* (*Q-Learning Algorithms*) to train an agent to navigate a *grid world* in C++

- Created *Custom C++ Neural Network Library* and used it to implemented *MNIST* handwriting recognition. Uses a *sigmoid activation function* to calculate the error in *back-propagation*

- Created Intel 8080 Space Invaders *emulator* written in *C*, using *OpenGL* for graphics. Implemented 60 *opcodes* with *interrupts* and button input currently in progress.