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**Education and Qualifications**

* **Aug 2018 – Dec 2020:** **Bachelor of Science in Software Engineering**

University of Northern Colorado

* **Aug 2004 – Dec 2008:** **Bachelor of Science in Mechanical Engineering**

University of Wyoming

**Technical Expertise**

* **Languages:** Python, JAVA, C#, Oracle SQL, MySQL, HTML / CSS, PHP
* **Software:** IntelliJ, PyCharm, Visual Studio, GitHub Desktop, PuTTY, Brackets, Anaconda/ Jupyter Notebook, MySQL Workbench, Unity, Eclipse, Gimp, Spriter, Prezi, Microsoft SQL Server
* **Project Management:** Asana, ZenHub, Trello, Jira
* **Frameworks:** .NET, Django ORM and MVC, TensorFlow, pandas, Bootstrap, Tkinter, Swing
* **Version Control:** Git
* **OS:** Windows, Linux, Raspbian

**Relevant Experience**

**Nov 2020 – Present: Orbital AI Driven Design:** http://orbitaladd.pythonanywhere.com

* Utilizing ZenHub project management plugin in a GitHub repository.
* Followed Agile methodologies (SCRUM) to manage software development lifecycle (SDL)
* Django Model-View-Controller (MVC) architecture, utilizing the Django Object-Relational Mapper (ORM), MySQL database

**Aug 2019 – May 2020: Computer Science Tutor**

**UNCO – Computer Science Department**

* Tutor for entry level Python, Java, HTML, Calculus classes, intermediate Java OOP classes
* Tutor for Data Structures and Algorithms class concurrent with enrollment

**May 2019 – Present: Traffic Operations Intern**

**City of Loveland Public Works Department**

* Enter police accident reports into crash diagramming software
* Conduct traffic studies, enter data collected into Arc GIS map
* Manage traffic counter equipment
* Leveraging software knowledge to create a report generating app in Python

**Completed Projects**

**Aug 2020 – Dec 2020: ElBow Space:** a social network built with Django, including a MySQL database, and hosted on pythonanywhere. Wrote a quarter of all artifact documentation and developed the views, urls, and templates of MVC architecture. The project was written extensively through test driven development and clearly defined milestones. Personally, refactored the project to reduce complexity and excise bloat.

**Jan 2020 – Feb 2020: *Anagrams and Searching*:** created a Python program to efficiently check if a user entered string is in a large dictionary and to return all anagrams of the string as well as list subsets of contained anagrams. Used file reading, dictionary, lists, and top sorting algorithms.

**Jan 2020 – May 2020: *Tallest Tower*:** a roguelike 2D game made in the Unity environment with a team of 4. Implemented C# scripting, animator controllers, and UI controls feedback to control game assets. Created sprites in gimp, animated with Spriter, and imported into Unity as assets.

**Mar 2020 – May 2020: *Chefbot 3000*:** utilized Scrum methodology with sprints to develop Jira backlog of user stories, wireframes, and workflows. Presented progress to customer for an app that supports an in-home chef robot.

**Jan 2020 – Feb 2020: *Byte Adder*:** created project in Python that emulates the addition of bits at the root level of any computer. Project required byte input from users and utilized custom made And and Or gates to output byte with overflow thus allowing scalability.

**Mar 2019 – Apr 2019: *Yahtzee*:** Wrote an entire text-based Yahtzee game in Java with multi-player options and automatic score calculations. Currently rewriting from scratch utilizing newly learned data structure and algorithm knowledge to better interface with another program that aims to evolve an AI opponent for players. https://github.com/KevinBRitter/Public-Portfolio.

**Nov 2018 – Jan 2019: *Special Class Request*:** Pushed the computer science department, along with another student, to create a machine learning class. 12 students joined the class for introductory neural net and deep learning topics.

**Apr 2019 – May 2019: *PUBG Win Place Percentage*:** a machine learning and pair programming project to predict the likely winner of any Player Unknown Battle Grounds game given a large dataset. Written in Python implementing pandas DataFrames and TensorFlow modeling tools. Later applied genetic algorithm principles to evolve optimized hidden layer node counts for dramatically reduced training times and increased accuracies.

**Apr 2019 – May 2019: *Band Ticket Sales*:** a ticket sales app in Visual Studio/ C#. Created a multi-form GUI that implemented OOP to manage customers information, included tiered access for admin support.

**Nov 2019 – Dec 2019: *Warehouse Database***: group project in Oracle’s SQL Developer to model a small warehouse distribution system for manufacturing clients. Relational schema taken to Boyce Codd Normal Form. Built the Entity Relational Diagram for the project.

**Dec 2018 – Feb 2019: *Dot Breeding Program*:** wrote a multithreaded application in Java to demonstrate evolution through natural selection, whereby dots learn to navigate a maze. Dot fitness evaluation was used to increase probability of being chosen to create the next generation. Project loosely followed a CodeBullet tutorial.

**Aug 2018 – Dec 2019: *Personal Website*:**created a website with integrated logging, a database utilizing php, HTML, CSS, and SQL, custom styling in Template-View-Pattern architecture.

**Nov 2018 - Dec 2018: *The Dragon*:** a small story, multi-scene animation in Python’s tKinter. Pair programming project to tell a story using graphics in Python. Used pauses and looping structures to great effect for repetitive movements in characters.

**Sep 2018 – Oct 2018: *Random Maze Generator*:** wrote a program in Python that builds and displays a maze by randomly choosing a cardinal direction to remove a wall in a pre-populated matrix of chosen size until all coordinate pairs have been visited. Loosely based on a JavaScript tutorial found online. Simple rules dictate whether a wall is eligible for removal and backtracking from dead ends ensures there is always exactly one correct path through the entire maze.

**Aug 2018 – May 2019: *Entry level data science*:** statistics in Python, Java, C#. Learned syntax of each language while doing various beginner level programming assignments. Implemented Functional, Structured and Object Orientated Programming techniques.

**Dec 2018 – Dec 2019: *Entry level GUI design*:** learned to design Graphical User Interfaces via draw.io wireframes, build prototypes in tKinter, Swing UI, and Visual Studio Windows Forms. Implemented Gestalt Principles of Design.