Jacob Waters

A combination of strong creative intuition, solid Linear Algebra, Calculus, and Algorithms fundamentals, innate curiosity, and an emphasis on beautiful, scalable code make me a solid candidate for any creative role.

**Experience**

**Avionics Developer – Beach Launch Team Liquid Rocketry – Summer 2021 – Summer 2022**

* Developed software library for inflight data compression via Bit-Packing using **Embedded C++**
* Won ***Most Innovative*** senior project and $1000 for team as main presenter at Senior Expo
* Setup Ubuntu **SSH server** via **Bash** for remote programming of avionics testing hardware

**Engineering Tutor and Curriculum Design – Monterey Peninsula College – Fall 2021 Semester**

* Developed a CS/EE project for STEM students prioritizing rigor, accessibility, and engagement
* Designed a Coffee-Alarm prototype which notifies you when your drink is the perfect temperature
* Mentored students on coding and circuit design while guiding them through project implementation

**Computer Vision Research – California State University Long Beach – Summer 2018**

* Designed robot parts and electronics cases via **Fusion 360** and **OpenSCAD**
* Oversaw **3D Printing** designed components and learned 3D Printing design constraints
* Designed raised camera mount to allow for the robots computer vision capabilities

**Projects**

**Convolutional Neural Network - Python - 2022**

* Designed a 10-class image recognition classifier with a 96.5% validation accuracy using **Keras**
* Configured a local Linux installation to run **TensorFlow GPU** via locally hosted **Jupyter Notebook**
* Used a **Docker Container** to manage TensorFlow, Python, and Jupyter dependencies

**Light-Based Alarm Clock - Arduino C++ - 2019**

* Designed an RGB alarm clock which simulates a sunrise at a time defined by the user
* Designed a 2.4Ghz radio powered remote for controlling the RGB Led strip and alarm system
* Used **MOSFET’s** and **DC Power Supplies**, **diodes**, **CAD**, and **soldering**

**Racing Game - Java - 2017**

* **Designed a large-scale program** with dozens of Classes and over 100 pages of code
* Implemented **Calculus** and **Linear Algebra** skills to build a **spline generator** for easy level generation
* Developed a **novel equation & algorithm** to intersect a moving circle with a polynomial in O(n) time

**Education**

* Bachelor of Science in Computer Science – C.S.U. Long Beach – GPA 3.66 – May 2022

|  |  |  |
| --- | --- | --- |
| **Programming Languages**   * Java * C++ * SQL * Python | **Have Built Original**   * Linear Algebra Formulas * Calculus Formulas * Novel Algorithms * Large Scale Programs | **Professional Qualities**   * Honest and Hardworking * Open to Criticism * Adaptable and Determined * Kind and Friendly |