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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

Software Engineer – Applied Materials – July 2022 – Current

- Re-engineering legacy wafer fabrication tools controllers with modern parts
- Designing modern GUI software to interface to legacy tool API's
- Leverage advanced technical skills to improve process efficiency

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

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