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Jacob Waters

I thrive on tackling complex technical challenges and finding innovative solutions. I have an incredible intuition for math and algorithms and a mind that constantly churns new ideas. I yearn for a fast-paced environment with a talented team to learn from and grow with. Lets push the boundaries of what's possible together.

Experience

Software Engineer – Applied Materials – July 2022 – Current

- **Architected a Reusable Python GUI Framework** with custom widgets tailored to the semiconductor field, enabling reusability, scalability and efficiency.
- **Designed a robust C++ API** to abstract away complex legacy assembly code and built a Python API on top to optimize performance, ease-of-use, and code complexity.
- **Drove project progression** with determination, resourcefulness, and effective communication across various stakeholders and engineering disciplines.

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

- **Enhanced rocket logging rate** by developing a **C++** library for efficient inflight data compression
- **Won *Most Innovative*** senior project and $1000 for team as main presenter at Senior Expo
- **Enabled rapid remote development** with a Linux SSH server for avionics testing

Engineering Curriculum Design and Mentor – Monterey Peninsula College – Fall 2021

- **Created outstanding STEM curriculum** to inspire passion and creativity in tomorrows engineers
- **Envisioned the perfect learning prototype:** a device which notifies you when your drink is the perfect temperature, combining software, electrical, and mechanical skills into one simple and fun project
- **Optimized student outcomes** by tailoring lesson plans to maximize inclusion and rigor

Projects

Convolutional Neural Network - Python - 2022

- **Acheived a 96.5% validation accuracy** on a 10-class image recognition CNN with limited dataset
- **Enabled hardware acceleration** with a custom Linux installation to running TensorFlow GPU
- **Leveraged and built Docker Containers** to manage TensorFlow, Python, and Jupyter dependencies

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

- **Designed an RGB alarm clock** prototype which simulates a sunrise at a time defined by the user
- **Improved design with a remote** for controlling the RGB Led strip with a remote-locating mode
- **Utilized electronics skills** along with CAD and 3D printing experience to build from raw components

Racing Game - Java - 2017

- **Architected a large-scale program** with dozens of Classes and over 100 pages of code
- **Built a spline generator** for easy level generation using Calculus and Linear Algebra skills
- **Solved wheel collision prediction problem** by developing a novel equation & algorithm

Education

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

Skills

- Python
- SQL
- C++
- TensorFlow
- Java
- Bash

Original Works

- Mathematical Formulas
- Novel Algorithms
- Large Scale Programs

Professional Qualities

- Honest and Friendly
- Adaptable and Determined
- Open to Criticism