

Brandon Mack

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Professional Overview

I am a Software Engineer that is well-rounded in many different subjects. I have studied electrical engineering as well with courses in metrology of semiconductors and microchips. I enjoy understanding both hardware and software systems in order to see the big picture in my projects.

Work Experience

Project Intern @ OmniCorp Solutions : 5/17/2024 - 6/21/2024 - Remote

<https://github.com/OmniCorp-Solutions>

- Full-stack development of AI facial recognition server and client in Python.
- Develop understanding of vector databases in relation to machine learning principles.

Previous Projects

AI Facial Recognition:

- Development of an AI server and client which uses a vector database to recognize faces based on previous encryptions.
- Trained facial recognition model using HOG and celebrity faces.

Project Smartfan:

- Grand prize winner of the ASU 10 Across Challenge and recipient of \$150,000.
- Designed and implemented a python-based application to operate as an alternative to Home Assistant.
- Work within various weather APIs such as Accuweather.
- GUI design on both a control module screen and a local web application.

Research Paper “Incorporating Metrology for Improving Security and Provenance in AMD’s Chipsets”

- Focus on using critical-dimension metrology to implement an Intel EMIB-inspired design to address problems plausibly-related to stack overflow and multi-die architecture.

Skills

- Proficient in CAD software, basic physics, computer hardware
- Experienced with Git operations
- Experience working with and applying:
 - C/C++
 - Java
 - CUDA
 - Python
 - R
 - HTML 5, CSS
 - Linux OS bash
 - Windows OS powershell
 - MySQL databases, NoSQL databases
 - MongoDB
 - JavaScript, Node.js, Express
- Experience working with image vector databases in both CPU-optimized machine learning (HOG) and GPU-optimized machine learning (CNN)
- Interest and focus on artificial intelligence rational actors applying various search algorithms.
- Experience in Unreal Engine blueprinting/C++
- Microsoft Visual Studio IDE preferred
- Electrical Engineering studies

Education

Shadow Ridge High School - Surprise, AZ

High School Diploma: 05/2019

- Was in top 1.01% of the Senior class (5 of 497).
- 4.0 unweighted GPA

Northern Arizona University - Flagstaff, AZ

College Degree - BS in Software Engineering: 08/2024

- Cumulative GPA: 3.0

Certifications

- Certified SolidWorks Associate (CSWA)
- Arizona Driver’s License
- SEE Learning