SAAD AMIN

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ABOUT ME

I am a junior at Mission San Jose High School and an aspiring CS major. I work with parallel computing, visual computing, and machine learning.

WORK EXPERIENCE

University of California, San Francisco

August 2022-present: working as a software intern at Irwin Laboratories. Main task is porting a drug-discovery program to the GPU. Working with GPU algorithms and data structures.

PROJECTS

GPU Path Tracer

Summer 2021-Summer 2022: wrote a path tracer and implemented MIS, NEE, physically based BRDFs, BVHs. Implemented using GPU compute and achieved real-time results. Repository: github.com/saada2006/GPURayTracer

Classifier

Summer 2022: wrote a classifier in C++ that is based on the Adaptive Linear Neuron algorithm. Repository: github.com/saada2006/MachineLearning

CPU Renderer

Spring-Summer 2021: worked on a CPU path tracer.
github.com/saada2006/CpuRenderer

Hydrogen Game Engine

Spring-Fall 2020: wrote a small rendering/game engine in OpenGL and C++.
github.com/saada2006/Hydrogen

Minecraft Shaders

Summer 2020-Winter 2021: used Optifine's shader pipeline to create various rendering effects in Minecraft. Implemented precomputed atmospheric scattering, two-pass depth of field, volumetric clouds, screen-space reflections, etc.
github.com/saada2006/MinecraftShaders

AWARDS

USA Computing Olympiad

March 2022-present: participated in a programming contest. Currently ranked gold.

Science Olympiad

2019: participated in engineering and physics based subcompetitions. Earned 3rd place in elastic-launched glider, density lab, and experimental design at the regional competition. Earned 4th place in density lab at the state competition. 2020: again participated in engineering and physics based subcompetitions. Earned 1st in simple machines, density lab, and experimental design at the regional competition. State competition was canceled due to COVID-19.

EDUCATION

Mission San Jose High School

2022 Fall: currently studying AP Calculus BC, AP Computer Science, AP Physics, and AP Statistics.
2022 Spring: earned an A in both Honors Chemistry and Precalculus.
2021 Fall: earned an A in both Honors Chemistry and Precalculus

PROGRAMS ATTENDED

Stanford Math Circle

January 2022-March 2022: studied advanced mathematics at a high school program at Stanford.

Stanford Splash

December 2022: attended classes revolving around engineering, computer science, and machine learning at Stanford.

Berkeley Math Circle

August-December 2022: studied advanced mathematics at UC Berkeley. Main areas of study: set theory, probability, and quantum mechanics.

Aspiring Scholars Directed Research Program

August-December 2022: studied the FTO gene at the Brah Lab. Worked with docking software.

Academic Talent Development Program

June-August 2021: studied computer science at UC Berkeley. Learned about algorithms and data structures.

VOLUNTEERING

Stanford Blood Center

December 2022-present: working as a post-donation canteen host.

Washington Hospital

December 2022-present: working in the lobby.

Tri-City Food Bank

Summer 2022: greeted and checked in clients. Restocked food shelves.