ALAN YAO
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github: alancyao
website: alanyaois.moe

Academic Record

2012-Present **University of California, Berkeley**
Electrical Engineering and Computer Science. GPA 3.9
Intended Graduation: Spring 2016

CS CLASSES: CS170 (Algorithms), CS184 (Graphics), CS161 (Security), CS188 (AI), CS194-26 (Computational Photography), CS162 (OS), CS189 (Machine Learning), CS274 (Computational Geometry), CS280 (Computer Vision)

OTHER: Math 113 (Abstract Algebra), EE126 (Probability and Random Processes)

Work Experience

2015 SWE INTERN using OpenGL ES, GLSL, and C++ on next generation map rendering for Maps & Earth products across mobile, desktop, wearable, and automobile displays.
Achieved and validated performance gains of up to 63% less data sent to GPUs and tripled the frame rate in dense scenes.
Implemented new groundbreaking features and addressed launch-blocking bugs for next-gen Maps API launch.
Google

2014 SOFTWARE DEVELOPMENT INTERN. Full stack development in PHP.
Wrote Solr search backend indexing 30m+ documents of varying categories, and wrote algorithms for relevancy sorting, autocompletion, and fuzzy matching.
Crunchyroll

2014-2015 GSI for CS61B, CS61BL, CS170. Lectured, taught lab and discussion, wrote student projects and autograding framework.
UC Berkeley

2013-2014 READER for CS170 (algorithms) and CS61B (data structures). Graded homeworks, projects; provided feedback.
UC Berkeley

Projects

Raytracer - Distributed raytracing on obj file inputs, with acceleration data structures for image rendering.
Inverse Kinematics - Uses the inverse jacobian method to smoothly animate predefined movement paths.
Gradient Domain Blending - Least squares solution to the Poisson equations for smooth image blending.
Face/Image morphing - Warps images from one to another on predefined and automatically detected meshes. Computes intermediate faces, image mosiacs, and various other applications.
Automatic Image Stitching - Detect correspondences between images and create a projective transform for image stitching, insertion, and rectification.
Neural Network - Uses a 3 layer NN trained on the GPU with batch gradient descent for MNIST digit classification, with 1.5% classification error.
Dynamic Viewing - Uses multi-scale template matching based on the user's face location to adjust the viewing angle, direction, and camera location in a minecraft game.
HKN compserv - Front/back end development in Rails; sysadmin work on Apache webserver and LDAP.

Things I'm Good At

LANGUAGES: Python, MATLAB, C++, Java, C, Ruby/Rails, PHP, Bash

SOFTWARE: Standard unix (httpd, sed, git, etc), Photoshop, LaTeX, OpenGL, StarCraft 2

ACTUAL LANGUAGES Chinese, English, some Japanese

Other Involvement

2013-2015 **ETA KAPPA NU**, COMPSERV OFFICER

2012-2013 ESPORTS AT BERKELEY, *President and Competitive Coordinator*

2013-Present CROSSROADS CHRISTIAN FELLOWSHIP, Core Leadership