Alex Sor Kang

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EDUCATION

University of California, Berkeley Expected Graduation: May 2016

Applied Mathematics and Computer Science

- **Relevant Courses:** Algorithms, Data Structures, Artificial Intelligence, Network and Internet Architecture, Computer Architecture, Numerical Analysis, Linear Algebra, Discrete Mathematics and Probabilities.

SKILLS

- **Programming**: Javascript (NodeJS, jQuery), Python, Java, C, MIPS, HTML, CSS, MatLab
- **Software/Hardware**: A+ certification, Intel SSE Intrinsics, OpenMP multithreading, Nvidia CUDA, LaTeX

EXPERIENCE

Douglas Labs (UCSF) May 2015 – Present

Software Engineering Intern

- Worked towards a virtual lab that allows for all day-to-day lab tasks to be completed remotely through a virtual reality system.
- Used the MEAN stack to develop micro services that communicate with the lab's API database. Developed a scheduler and an image annotator service.
- Worked closely with a 3d scanner/printer to create and import 3d models and scripted interactions between lab assets in the UNITY game engine.

Cashify May 2013 – Jan 2014

Programming Development Intern

- Worked in a team of 5 to create multiple web-based applications using Javascript to aid in financial literacy.
- Designed the animation sequences for the applications utilizing the online Collie JavaScript API.

Pioneers in Engineering Feb 2013 – May 2013

Mentor

- Mentored 4 high-school students for a semester long robotics competition at UC Berkeley
- Aided in the programming of a robot using C# to navigate through a maze and other functions

PROJECTS

- **TSP Approximation -** Competed against a class of over 500 people for the best traveling salesman problem approximation algorithm and graph.
- **alexsorkang.github.io -** Constantly redesigning my website in order to experiment with new knowledge.
- **Pacman -** Minmax/expectimax, MDP iterations, Q-learning, particle filtering and other AI for game sprites.
- **CPU design -** Designed a 2-stage pipelined processor (ALU, Control Unit, and CPU) using Logism.
- **Enigma -** Replicated the WWII encryption/decryption device using multiple mappings and a secret key
- **Firewall -** A firewall capable of dropping or denying various packet types based on a set of custom rules which includes country, IP, port, packet type, and domain name for DNS packets.
- **Markuproom -** Uses node with socket.io for a real-time html/css appender with a chatroom style layout.
- **Connect Four (mapreduce) -** Recreated the popular connect four-board game and its AI. Used the amazon AWS service to run the map reduce for the min/max AI.
- **Image Recognition -** Developed and parallelized (Intel SSE, Nvidia CUDA and OMP) image recognition through transformation and translation comparisons**.**