Parthiv V. Mohan

2535 Channing Way, #403A
Berkeley, CA 94704

Mobile: (408) 531-5326
Email: parthiv.mohan@gmail.com

EDUCATION

University of California, Berkeley — **Berkeley, CA**
B.A. Computer Science, B.A Cognitive Science — *Expected 05/2016*

Relevant Coursework:
The Structure and Interpretation of Programming; Data Structures; Machine Structures; Artificial Intelligence (In progress); UNIX Environment (In progress); Signals and Systems (In progress); Discrete Math and Probability; Calculus I; Calculus II; Linear Algebra and Differential Equations; Industrial Database Systems; Brain, Mind, and Behavior; Quantum Consciousness; The Mind and Language (In progress); Introduction to Micro and Macro Economics

Saratoga High School — **Saratoga, CA**
Graduated with High Honors, NCTE Writing Award, AP Scholar with Distinction, SAT: 2330 — *06/2012*

EXPERIENCE

Department of Computer Science, UC Berkeley — **Berkeley, CA**
Lab Assistant — *09/2013-Present*

- Help students in CS 61A (The Structure & Interpretation of Programming) during lab periods
- Assist graduate student instructors in teaching students fundamental ideas in computer science

Research Project with a Faculty in Residence in the EECS Department — **Remote**
Undergraduate Researcher — *07/2013-Present*

- Worked very closely with Dr. Jean Paul Jacob, a Faculty in Residence in the Electrical Engineering & Computer Science Department at UC Berkeley and a Special Advisor for CITRIS @ Berkeley
- Worked on research project investigating the capabilities, applications, and shortcomings of IBM's groundbreaking computer Watson and the implications that its abilities have for society at large

MonolithIC 3D Inc. — **San Jose, CA**
Software Engineer Intern — *06/2012-8/2012*

- Created a graphical user interface (using Java and the Swing toolkit) for the company's chip simulating software
- The functionality that I implemented was released to the public as open source software and I won an Outstanding Performance Award for my work

PROJECTS (https://github.com/pmocal)

Network http://pmocal.github.io/network/

- Implemented an AI for a 2 player board game Network. The AI can win against the Computer 100% of the time by using minimax (alpha beta pruning) and game trees.

Customer Heatmap http://pmocal.github.io/customer-heatmap/

- Wrote scripts that use the Google Maps API to geocode addresses from a Microsoft Access database's output. Used address and spending information to calculate a weighted mean center and created a heatmap of the customers with the weighted mean center marked. A business could use this program to figure out where an optimal new location would be if they needed to move or open a new location.

Image Convolution Optimization http://pmocal.github.io/convolution-optimization/

- Improved a basic 2D image convolution implementation using loop reordering, loop unrolling, SSE intrinsics, parallelization using OpenMP, compiler tricks, and branching reduction and increased its speed from ~1 Gflop/s to ~80 Gflop/s (average speed over a variety of image sizes).

SKILLS

Proficient in: Java, Python, C, MIPS, HTML, CSS **|** **Experience in:** SQL, Unix, Git, Hadoop MapReduce, LaTeX

ACTIVITIES & INTERESTS

UC Berkeley Dil Se (South Asian A Cappella Team): Member, Soloist, Music Committee, Financial Manager (2012-2013)
Hobbies: Classical music, Violin, Literature, Tennis, Art films, Design, Frisbee