

# Hao Huang

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## EDUCATION

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### UNIVERSITY OF CALIFORNIA, BERKELEY

**Bachelor of Arts, Computer Science**

Expected **May 2015**

**Relevant coursework:**

Data Structures, Efficient Algorithms and Intractable Problems, Artificial Intelligence, Internet Architecture and Protocols, Concepts in Computing with Data

## SKILLS

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- Skilled in programming in Python, Java, Ruby on Rails, HTML5, CSS3, JavaScript (jQuery), C, R, XML, Scheme, and LOGIC (a query language designed specifically for class use)

## PROJECTS

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### Network-linking Game & Machine Player Application (Java)

- Divided the whole task into six modules and designed interfaces between pairs of modules
- Implemented evaluation function, tracking each step in simulator module
- Optimized selection strategies by using alpha - beta pruning and minimax game tree search in strategy module

### Image Processing (Java)

- Implemented blurring and edge detection image processing operations on image object
- Implemented evaluation function, tracking each step in simulator module
- Combined the old image representation and Run-Length Encoding representation to get faster running time

### MapReduce (Java)

- Utilized Amazon EC2 servers and Hadoop to solve big data problems about concurrences of words in giant documents
- Used hash table with a MapReduce approach in java to efficiently organize keys and values

### Reinforcement Learning (Python)

- Implemented approximate Q-Learning algorithm for machine agent to experience the world and learn
- Improved learning rate by adding epsilon greedy search for learning process
- Developed the state abstraction to solve more general learning questions

### Scheme Interpreter Development (Python)

- Implemented an interpreter for a subset of the Scheme programming language by using Python with mutually recursive eval-apply function as its underlying core

## EXPERIENCE

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### Web Developer Intern

Thinktown Education Inc., New York, NY

May 2014 - Aug 2014

- Designed and developed company's website at <http://apolish.businesscatalyst.com> using HTML and CSS
- Collaborated with team on implementing website functionality with jQuery library
- Managed recruiting system and evaluated resumes and assessments from top universities elites

### Computer Science Lab Assistant

University of California at Berkeley, Berkeley, CA

Jan 2014 - May 2014

- Cooperated with graduate student instructor to check off students by testing completed lab assignments
- Gave extra attention to students with difficulties, providing hints on programming in C, MIPS

### College Tutor

De Anza College Tutoring Center, Cupertino, CA

Sep 2012 - June 2013

- Tutored at-risk college students on a wide range of subjects, including computer programming, and statistics
- Assessed learning styles of each student and adjusted tutoring style to maximize teaching effectiveness