

## Sue Ann Hong

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### EDUCATION

- Carnegie Mellon University, Pittsburgh, Pennsylvania**      **Expected May, 2012**  
Bell Labs Graduate Research Fellowship recipient, 2005-2010  
Ph.D. candidate in Computer Science
- California Institute of Technology, Pasadena, California**      **June, 2005**  
B.S. in Computer Science, GPA: 3.8

**RESEARCH INTERESTS:** statistical machine learning, on-line algorithms and optimization, distributed multi-agent planning

### WORK EXPERIENCE

- Facebook, Inc.**      **Software Engineering Intern, Search**      **June, 2011 – Sept, 2011**  
Improving the search experience.
- Carnegie Mellon University**      **Graduate Research advised by Geoff Gordon**      **Nov, 2008 –**  
I am studying distributed resource allocation in multi-agent planning domains, framing it as a combinatorial optimization problem that can be decomposed as a distributed computation. I consider both cooperative and competitive domains, spanning cooperative control problems such as multi-agent task allocation and path planning and operations research domains such as vehicle routing and multi-company resource allocation.
- Carnegie Mellon University**      **Graduate Research advised by Tom Mitchell**      **Sep, 2005 – Oct, 2008**  
I investigated methods for continuous learning in the domain of information extraction from text, employing semi-supervised machine learning techniques such as co-training and by leveraging logical constraints posed by a structure over entity and relation classes. With a team of students, I also developed a large-scale system implementing these ideas on text documents from the web.
- Bell Labs, Lucent Technologies**      **Research Intern**      **May, 2006 – Aug, 2006**  
Prediction of dropped connections in cellular networks
- Nippon Telegraph and Telephone Corporation, Atsugi, Japan**      **Summer, 2004**  
Internship; Advisors: Dr. Shin'ya Nishida, Dr. Waka Fujisaki  
. Designed and tested accuracy of a system for audio-visual synchrony perception experiments, using real-time processor by TDT, Matlab, and Adobe Premiere Pro. Programmed and performed preliminary experiments on the tested system.  
. Presented the project to the NTT Atsugi Research Center community.
- California Institute of Technology**      **DARPA Grand Challenge Team Caltech**      **March, 2003 – March, 2005**  
. DARPA Grand Challenge is a robotics competition of fully autonomous ground vehicles to complete a course between Los Angeles and Las Vegas (225 to 250 miles) in the fastest time and in less than 10 hours. (<http://team.caltech.edu>)  
. During the summer of 2003, worked on interfacing brake, throttle, transmission, and steering actuators to computers, building electrical circuits and writing software.  
. During the school year 2003-2004, worked on various aspects of path planning including the arbiter, waypoint following, and an elevation map.  
. During the school year 2004-2005, researched and implemented algorithms for making path decisions and handling emergency responses based on sensing and system conditions to optimize speed and safety.
- California Institute of Technology**      **Summer Undergraduate Research Fellowship (SURF)**      **Summer, 2002**  
Undergraduate Researcher, Howard Hughes Medical Institute Scholar  
Advisors: Prof. Shinsuke Shimojo, Daw-an Wu  
. Performed experimental research to analyze the timing of human vision processing, using TMS which generates electromagnetic pulses that can be applied to human scalp to cause illusionary sensory perception or motor reaction. Observed and analyzed the difference between the perception time of objects seen through the eyes and that of TMS-induced images.  
. Presented the project and the final paper to the Caltech community.

## PUBLICATIONS

Sue Ann Hong, Geoffrey J. Gordon. Decomposition-Based Optimal Market-Based Planning for Multi-Agent Systems with Shared Resources. Intl. Conf. on Artificial Intelligence and Statistics (AISTATS), 2011.

Geoffrey J. Gordon, Sue Ann Hong, Miroslav Dudik. First-Order Mixed Integer Linear Programming. Uncertainty in Artificial Intelligence (UAI), 2009.

Justin Betteridge, Andrew Carlson, Sue Ann Hong, Estevam R. Hruschka Jr., Edith L. M. Law, Tom M. Mitchell, Sophie H. Wang. Toward Never Ending Language Learning. AAAI Spring Symposium on Learning by Reading and Learning to Read, 2009.

## TEACHING

<b>Carnegie Mellon University</b> Undergraduate artificial intelligence	<b>Teaching Assistant</b>	<b>Fall, 2009</b>
<b>Carnegie Mellon University</b> Graduate machine learning	<b>Teaching Assistant</b>	<b>Fall, 2007</b>
<b>Summer Science Program</b> A 6-week program for high school students involving astronomy, physics, math, and programming ( <a href="http://www.ssp.org">http://www.ssp.org</a> ).	<b>Teaching Assistant</b>	<b>Jun, 2005 – Aug, 2005</b>
<b>California Institute of Technology</b> Introduction to Programming Methods	<b>Teaching Assistant</b>	<b>Jan, 2005 – Mar, 2005</b>

## RELEVANT COURSEWORK

**(Graduate)** Machine Learning, Machine Learning Theory, Statistical Machine Learning, Intermediate Statistics, Probabilistic Graphical Models, Optimization, Bootstrap Learning for Information Extraction, Graduate Algorithms, Spectral Graph Theory and Scientific Computing, Optimizing Compilers, Type Systems, Computer Networks

**(Undergraduate)** Learning Systems, Algorithms, Information Theory, Machine Learning in Computer Vision, Computing Systems, Compilers Laboratory (Project), Networking, Distributed Systems Laboratory, Microprocessor Systems Laboratory, Solid State Electronics for Integrated Circuits, Introduction to Control and Dynamic Systems, Discrete Mathematics, Introductory Number Theory, Introduction to Complex Analysis, Ordinary and Partial Differential Equations

Core mathematics and physics classes: Multivariable Calculus; Linear Algebra; Probability and Statistics; Differential Equations; Mechanics; Electricity and Magnetism; Waves; Quantum Mechanics; Statistical Mechanics

## SKILLS

### Computer

- Java, Python, C, C++, Ocaml, Matlab, R, Intel 8018x Assembly, Scheme, JSP, XML, XSLT, MySQL
- Familiar with Windows, Linux, Unix, Mac OS X

### Laboratory

- Transcranial Magnetic Stimulus (TMS), Electrooculography (EOG), Real-time Processors by TDT
- Basic knowledge of analog and digital electrical circuits and instruments

### Languages

- Fluency in English and Korean; semi-fluency in Japanese; some French and Chinese