Sungjin Ahn

Contact Information

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Research Interests

Statistical machine learning algorithms for Big Data, Bayesian inference, and probabilistic graphical models with applications in computer vision, natural language processing, data mining.

Current Focus: Scaling up Bayesian inference for Big Data: MCMC using stochastic mini-batches and/or parallelization

Education

Ph.D., University of California, Irvine

Computer Science, Sep 2010 $\sim$ 2015 (Expected)

- Advisor: Max Welling
- GPA: 3.98/4.0

M.S., Korea Advanced Institute of Science and Technology (KAIST)

Computer Science, Mar 2006

- *Magna Cum Laude*
- GPA: 4.03/4.3 (96%), ranked 2^{nd} out of 80 graduates in 2006

B.S., Korea Aerospace University

Computer Engineering, Mar 2004

- GPA: 3.98/4.5 (94%)

Honors and Awards

2012	Best Paper Award, International Conference on Machine Learning (ICML 12)
2010–2014	Dean's Fellowship, Donald Bren School of Information and Computer Sciences, UCI
2006	Outstanding Paper Award for *Mosaic Localization for WSN* in the 2^{nd} International RFID/USN Conference
2005	Outstanding Paper Award *Proactive Context-Aware Sensor Networks* in the 1^{st} International RFID/USN Conference
2004 – 2006	BK21 Scholarship from Korea Research Foundation

Industry Experience

12/2006–06/2010	Researcher at Agency for Defense Development (developed a software for an intelligent tactical navigation system and its user modeling AI part)

Teaching Experience

Fall	2012	Teaching Assistant, *Project in AI*
Summer	2012	Teaching Assistant, *Undergraduate Summer Research in Machine Learning (Ensemble Learning)*
Spring	2012	Teaching Assistant, *Collaborative Filtering*
Spring	2006	Teaching Assistant, *Special Topics on Robotics*
Fall	2006	Teaching Assistant, *Microprocessor + Lab*

Graduate Coursework

- ❑ Machine Learning
- ❑ Bayesian Statistics
- ❑ Image Understanding
- ❑ Scientific Computing
- ❑ Convex Optimization (Audit)
- ❑ Research Topic in Computer Vision
- ❑ Probability and Random Process
- ❑ Linear Programming
- ❑ Pattern Recognition Theory
- ❑ Queueing Theory
- ❑ Algorithms

Relevant Skills

Programming:	Matlab, R, C, C++, Java, Python
OS:	Linux, Unix, Windows
Languages:	English, Korean

Publications

S. Ahn, A. Korattikara, and M. Welling, *Bayesian Posterior Sampling via Stochastic Gradient Fisher Scoring*, ICML 2012, **Best Paper Award**

Technical Reports

Pilot Decision Support System for Tactical Military Aircrafts, Agency for Defense Development, 2009

Talks

Bayesian Posterior Sampling using Stochastic Mini-batches for Big Data, ID Analytics Inc., 2012.

Bayesian Posterior Sampling vis Stochastic Gradient Fisher Scoring, invited talk for sub-area spotlight track in Machine Learning, AAAI, 2012.

Decision Support Systems for Military Aircrafts, Agency for Defense Development, 2009.

Research Projects

04/2012–Present	Developed an algorithm for parallelized adaptive MCMC (UCI)
04/2011–03/2012	Developed a scalable posterior sampling algorithm using stochastic mini-batches (UCI)
09/2010–03/2011	Generalized belief propagation on structured region graph (UCI)
08/2007–06/2010	Research on pilot decision support system and intelligent tactical navigation (ADD)
12/2006–11/2008	Developed an algorithm for ground collision avoidance in terrain referenced navigation using particle filtering (ADD)
02/2004–11/2006	Developed energy efficient routing protocols for automatic networking of tiny wireless sensors (KAIST)

References

Available upon request

Last Update

Jan. 5, 2013