Seo, Minjoon

Ph.D. Student
Department of Computer Science & Engineering
University of Washington

Email: minjoon@cs.washington.edu
Website: seominjoon.github.io
Phone: (510) 898-8788

Research Statement

My primary research area is natural language processing. More specifically, my research interest has two themes. First, I am interested in in the understanding of natural language in the presence of visual information. As such, for my qualifying evaluation project, I worked on devising a system that understands and solves high school geometry problems, in which the system uses diagram information to improve text parsing [1], and vice versa [3]. Second, I am interested in automatically extracting knowledge from unstructured text and making inferences based on the constructed knowledge base. I believe that these two themes are closely related to each other; for instance, understanding text in Wikipedia or textbooks can be assisted by, and sometimes requires, the understanding of its interaction with the accompanying images or diagrams.

Education

University of Washington Sep 2013 –
Ph.D. in Computer Science
Advisers: Hannaneh Hajishirzi, Ali Farhadi, Oren Etzioni
Cumulative GPA: 3.72/4.0

University of Washington Sep 2013 – Dec 2015
M.S. in Computer Science

University of California, Berkeley Aug 2008 – May 2012
B.S. in Electrical Engineering & Computer Science
Cumulative GPA: 3.94/4.0

Publications

[1] Minjoon Seo, Hannaneh Hajishirzi, Ali Farhadi, Oren Etzioni, and Clint Malcolm. "Solving geometry problems: combining text and diagram interpretation". In: *Proceedings of EMNLP*. 2015.

[2] Lilian de Greef, Mayank Goel, Minjoon Seo, Eric C Larson, James W Stout, James A Taylor, and Shwetak N Patel. "Bilicam: using mobile phones to monitor newborn jaundice". In: *Proceedings of UbiComp*. 2014.

[3] Minjoon Seo, Hannaneh Hajishirzi, Ali Farhadi, and Oren Etzioni. "Diagram understanding in geometry questions". In: *Proceedings of AAAI*. 2014.

[4] David A Moore, Kevin M Mayeda, Steve M Myers, Minjoon Seo, and Stuart J Russell. "Progress in signal-based bayesian monitoring". In: *Proceedings of the 2012 monitoring research review: ground-based nuclear explosion monitoring technologies*. 2012.

Employment

Allen Institute for Artificial Intelligence Mar – June 2015, June – Sept 2014
Research Intern (advisers: Oren Etzioni, Ali Farhadi)
Project Euclid: we devised an end-to-end system that solves geometry problems in college entrance exam (SAT) with SAT score of 49% [1]. I also worked on the project as a research assistant in University of Washington.

Seoul National University, Korea Aug – Sept 2013

Research Intern (adviser: Young-gil Shin)
We devised a Markov-chain-based algorithm for slice-matching the medical images of patient torsos with accuracy of 95%.

Oracle Corporation Aug 2012 – May 2013
Software Engineer
Developed tools for verifying the operating system of Oracle's switches.

Symantec Corporation May 2011 – Aug 2011
Software Engineering Intern
Developed tools for debugging Semantic Enterprise Protection.

Honors and Awards

- Best Paper Nomination [2], UbiComp 2014
- Graduated with Highest Honors (Summa cum Laude), UC Berkeley, 2012

Services

- University of Washington NLP Group Paper Reviewing Organizer (2015-2016)
- Reviewer: ACL (2016)
- Subreviewer: AAAI (2014, 2015, 2016)

References

Hannaneh Hajishirzi
Assistant Research Professor, University of Washington
hannaneh@washington.edu

Ali Farhadi
Assistant Professor, University of Washington
ali@cs.uw.edu

Oren Etzioni
Chief Executive Officer, Allen Institute for Artificial Intelligence
orene@allenai.org