

# Drew A. Hudson

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## EDUCATION

### Stanford University

Sep 2016 – Present

*Ph.D. in Computer Science*

Advised by Prof. Christopher D. Manning.

- Interested in artificial intelligence, particularly in deep learning, compositionality, knowledge representation and machine reasoning.
- Developed models and datasets for the tasks of visual question answering and language understanding.
- Did a rotation project about deep amortized variational inference for probabilistic programming.

### Technion, Israel Institute of Technology

2009 – 2014

*B.Sc. in Computer Science (Summa Cum Laude)*

GPA: 97.4 / 100. Ranked 1st out of 224 in the CS graduating class.

- Participated in the Rothschild scholars program for excellence – a highly competitive research program for undergraduate students.
- Worked with Prof. Hadas Shachnai and Prof. Shmuel Zaks on distributed algorithms and theoretical computer science.
- Completed relevant coursework in machine learning, statistics, robotics and natural language processing.
- Started academic studies at age 14.

## EMPLOYMENT

### Google, Inc

2012 – 2013

*Software Engineer, Google Search Team – Research and Development*

- Developed and refined natural language processing models to improve search quality.
- Created and improved tools and infrastructure for more robust and scalable data processing backends.

## AWARDS & HONORS

- Stanford SoE fellowship for first-year graduate students
- Google Anita Borg memorial scholarship for leading women in computer science, 2013
- The Excellent CS Students Program (SAMBA) award for academic excellence
- Technion President's list of honors (*top 3%*): Fall 2009/10 – Fall 2013/14
- Chais' full-tuition scholarship, 2009 – 2014

## PUBLICATIONS

- [1] [Learning by Abstraction: The Neural State Machine](#)  
**Drew A. Hudson**, Christopher D. Manning  
NeurIPS, 2019 (*Spotlight presentation, top 3%*)
- [2] [GQA: A New Dataset for Real-World Visual Reasoning and Compositional Question Answering](#)  
**Drew A. Hudson**, Christopher D. Manning  
CVPR, 2019 (*Oral presentation, top 5%*)  
[visualreasoning.net](http://visualreasoning.net)
- [3] [Compositional Attention Networks for Machine Reasoning](#)  
**Drew A. Hudson**, Christopher D. Manning  
ICLR, 2018  
[MAC network](#)
- [4] [Tighter Bounds for Makespan Minimization on Unrelated Machines](#)  
**Dor Arad**, Yael Mordechai, Hadas Shachnai  
Arxiv, 2014

## TALKS

- [1] Learning by Abstraction: The Neural State Machine  
*Microsoft Redmond, September 2019*
- [2] [The GQA Challenge](#)  
*CVPR Visual Question Answering and Dialog Workshop, June 2019*
- [3] [Compositional & Relational Visual Reasoning](#)  
*ICLR Representation Learning on Graphs and Manifolds Workshop, May 2019*
- [4] Minimizing Rosenthal Potential in Multicast Games  
*Technion, March 2014*
- [5] Exact and Approximate Bandwidth  
*Technion, Feb 2014*

## PROFESSIONAL ACTIVITIES & SERVICE

**Workshop organizing committee:** CVPR VQA 2019, NeurIPS ViGIL 2019, CVPR VQA 2020.

**Challenges Organization:** Organized the GQA challenge for real-world visual reasoning and compositional question answering, which attracted more than 50 participating groups.

**Reviewer:** NeurIPS 2019.

**Mentoring:** Participated in a mentoring program – tutored first and second year undergraduate students in STEM classes, 2012-2014.

## EXTRACURRICULAR ACTIVITIES

Member of the Dunie Weizman conservatory of music (piano) for 8 years.