Dafna Shahaf

Gates Center, Computer Science, CMU
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Research Interests

Artificial Intelligence (AI), Information Retrieval, Machine Learning and Algorithms.

Education

Ph.D. Candidate in Computer Science, Carnegie Mellon, PA
2007–Current: Research supervised by Prof. Manuel Blum and Prof. Carlos Guestrin
GPA: 4.0 / 4.0

M.S. in Computer Science, University of Illinois at Urbana-Champaign, IL
2005–2007: Research supervised by Prof. Eyal Amir
GPA: 4.0 / 4.0

B.Sc. Mathematics and Computer Science (Double Major), Tel Aviv University, Israel
2001–2005, Graduated with honors *(Summa Cum Laude)*
GPA: 96% (4.0 / 4.0)
Took several M.Sc. classes before coming to UIUC, GPA: 4.0 / 4.0

Honors & Awards

2010: Best Research Paper award, KDD'10

2010: Microsoft Research Fellowship

2009: Microsoft Research Graduate Women's Scholarship

2008: David J. Kuck Outstanding Thesis Award

2006: Siebel Fellowship – given to five graduate students from ten leading universities (siebelscholars.com)

2006: Phi Kappa Phi Honor Society (phikappaphi.org)

2004: Tel-Aviv University Dean's List award of Distinction.

2004: Tel-Aviv University Computer Science school award of Distinction.

2004: The Shmuel Beck Scholarship – given to one student in the faculty of Exact Sciences

2004: Laureate of Wolf Foundation prize of Distinct Student.

2003: Tel-Aviv University Dean's List award of Distinction.

2002: Center of Technology, 8200 Unit – Distinct Soldier.

2002: Tel-Aviv University Dean's List award of Distinction.

2001: Tel-Aviv University Freshmen Fellowship – given to one freshman from several selected programs

2001: President of Israel - IDF Distinct Soldier Award.

Publications

Journal Papers

[1] D. Shahaf and C. Guestrin, *Connecting Two (or Less) Dots: Discovering Structure in News Articles*, in ACM Transactions on Knowledge Discovery from Data, 2011.

Refereed Conference Papers

[1] D. Shahaf and C. Guestrin, *Connecting the Dots Between News Articles*, in 22th International Joint Conference on Artificial Intelligence (IJCAI'11), 2011 (Best Paper Track)

[2] D. Shahaf and C. Guestrin, *Connecting the Dots Between News Articles*, in ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'10), 2010. **Best Research Paper award**

[3] D. Shahaf and E. Horvitz, *Generalized task markets for human and machine computation*, in 24st National Conference on Artificial Intelligence (AAAI'10), 2010

[4] K. El-Arini, G. Veda, D. Shahaf and C. Guestrin, *Turning down the noise in the blogosphere*, in ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'09), 2009

[5] D. Shahaf and E. Horvitz, *Investigations of Continual Computation*, in 21th International Joint Conference on Artificial Intelligence (IJCAI'09), 2009

[6] D. Shahaf, A. Chechetka and C. Guestrin, *Learning Thin Junction Trees via Graph Cuts*, in In Artificial Intelligence and Statistics (AISTATS'09), 2009

[7] D. Shahaf and E. Amir, *Logical Circuit Filtering*, in 20th International Joint Conference on Artificial Intelligence (IJCAI'07), 2007

[8] D. Shahaf and E. Amir, *Learning Partially Observable Action Schemas*, in 21st National Conference on Artificial Intelligence (AAAI'06), 2006

[9] D. Shahaf, A. Chang, and E. Amir, *Learning Partially Observable Action Models: Efficient Algorithms*, in 21st National Conference on Artificial Intelligence (AAAI'06), 2006

[10] D. Shahaf and E. Amir, *Towards a Theory of AI Completeness*, in CommonSense'07, 2007

Academic Service

Reviewer: WSDM, AAAI, IJCAI, CommonSense, WI.

Work Experience

Intern (2008, 2010), Microsoft Research, Seattle. Worked on continual computation, optimal proxy-cache updates, human-Computer micro-task marketplaces, and information overload.

Intern (2007), Fujitsu Laboratories, Tokyo. Developed algorithms for blog ranking and entity extraction from the web.

Research Assistant (2005–2007), Department of Computer Science, University of Illinois at Urbana-Champaign (Under the supervision of Prof. Eyal Amir). We develop algorithms that keep track of the world and learn its dynamics, using insights from Mathematical Logic. We presented the first algorithm that is tractable and exact for *all* deterministic domains; we are currently applying our techniques to Planning and Verification problems. We also investigate ways to establish theoretical foundations for AI.

TA: Tel-Aviv University, University of Haifa, Carnegie Mellon University
For Introduction to Modern Cryptography, Introduction to AI, and Algorithms, respectively.

Researcher at Safend Ltd. (2004–2005) 32 Habarzel Street, Tel Aviv, Israel.
Analyzed software and protocols, found endpoint security holes, implemented proof-of-concept attacks and tested security solutions.

Israel Defense Force (IDF), Intelligence Corps, 8200 Unit (2000–2003)
Served as an individual contributor in an award-winning communication software project.

Skills

Programming Languages: C#, Java, Visual Basic, Lisp, Scheme, Ocaml, Perl, Prolog, Matlab, SQL.

Web Skills: HTML, ASP, VBScript.

Languages: Hebrew (native), English (high fluency), French as a foreign language.

Interests: Scuba Diving, Swimming (a certified instructor), Science Fiction and Animation.