

Sarah K Tyler

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Summary: As a graduate student at the University of California, Santa Cruz, I am researching human language technologies focusing on personalized search with additional interests in social networks & novelty detection. My background includes machine learning, statistics and theory, with four years of industry experience at Lawrence Livermore National Laboratory.

Education:

PhD in Computer Science from *University of California, Santa Cruz*, (Expected May 2012)
Information Retrieval and Knowledge Management (IRKM) Group

Cumulative GPA: 4.00

Advisor: Yi Zhang

BS in Computer Science from *Carnegie Mellon University*, May 2004

Minors in English and Mathematical Sciences

Cumulative GPA: 3.78

Publications:

S. Tyler, Y. Zhang. Open Domain Recommendation: Social networks and collaborative filtering. In Proceedings of the 4th International Conference on Advanced Data Mining And Applications, Chengdu, China (ADMA '08). *To Appear*

Industry Experience:

Computer Scientist - *Lawrence Livermore National Laboratory* June 2004 to June 2008

- ♦ Advised several projects in my Text Consulting and Advising position, lending expertise to projects in other divisions.
- ♦ Designed and implemented software utilizing current state-of-the-art research in the area of language technologies, natural language processing and machine learning.
- ♦ Led small teams and worked independently on areas proven to be key wins for several projects across the Information Operations and Assurances Center (IOAC).
- ♦ Mentored Summer Students for three years.
- ♦ Employed full time from June 2004 to September 2007. Employed part time once enrolled in PhD Program at UCSC.

Cited Works:

- ◇ Technical Report: May, D. W. and **Sarah K Tyler**. "Securing and Sharing Knowledge: Analyzing Risk in the Trade off Space." 2007.
- ◇ **Tyler, Sarah K.** "Finding the Missing Link: Improving Entity Extraction." Technical Talk given to Z Division on April 30th, 2007.
- ◇ **Tyler, Sarah K.** "What Human Language Technologies Can Do For You" Technical Talk given to the IOAC center on February 7th, 2007.
- ◇ **Tyler, Sarah K.** "Deducing Hidden Graph Structure: A Subgraph Matching Approach." Technical Talk given to the LLNL Graph Analysis Working Group on April 19th 2006.
- ◇ **Tyler, Sarah K.** "Text Analysis for Graphical Models." Poster presentation , Computing Applications and Research (CAR)'s Research and Technology Showcase, April 4th 2007.
- ◇ **Tyler, Sarah K.** "Semi Supervised Text Classification." Poster presentation, CAR's Research and Technology Showcase, November 3rd 2005. Won best poster in my division.

Informatics/Algorithms Division Intern - *BodyMedia, Inc*

Summer 2003

- ♦ Implemented machine learning techniques including cross validation, and windowing.

- ◆ Created models to detect events such as stationary biking from measurements recorded via an armband included in the august release.

Honor Societies & Fellowships:

National Science Foundation (NSF) Graduate Researcher Fellowship

Cota Robles Fellowship

Phi Beta Kappa (<http://pbk.org>)

National Society of Collegiate Scholars (<http://nscs.org>)

Professional & Scholarly Awards:

Computing Research Association:

Honorable Mention, *Outstanding Undergraduate Award*

Lawrence Livermore National Laboratory:

Peer Award, Computations Directorate

Spot Award, Computations Directorate

Certificate of Excellence, Awarded by the Sponsor

Carnegie Mellon:

Senior Leadership Award

University Honors

Teaching Experience

Carnegie Mellon University:

Tutor for 15-212, 15-251

Spring 2003

Met weekly to reiterate difficult concepts for several students struggling with functional programming (*Principles of Programming*) and theory (*Discrete Mathematics*).

Leader of 15-354 Homework Help Night

Fall 2002

Voluntary created and led a weekly homework help night for students in *Computational Discrete Mathematics*. Met with half the class, worked on homework problems at the board and explained difficult concepts.

Teaching Assistant for 15-211

Fall 2001

Lectured a section of *Data Structures and Algorithms* and developed homework assignments.

Technologies:

Large scale applications written primarily in Java. In applications where time and space were critical, development was in C/C++.

Data sets often in the terabyte range.

Used Weka and other ensemble programs for quick prototyping and data exploration.

Experience with scripting languages such as Perl, Php, and Python as well other object oriented and functional languages.

Professional Memberships:

Association for the Advancement of Artificial Intelligence (<http://aaai.org>)

Association for Computing Machinery (<http://acm.org>)

Additional Activities:

Developed a reading ease analyzer based on Flesch, Fog, and Flesch-Kincaid approximations. Donated it to the *Logan Utah Public Library* for their adult literacy group on March 18th 2006