

Andrew D. Fox

CONTACT INFORMATION

Tufts University
Department of Computer Science
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RESEARCH INTERESTS

- Statistical and graphical modeling of biological networks and systems
- Application of machine learning methods to biological knowledge inference
- Analysis of large-scale genomic and epigenomic data sets
- Natural language processing for biomedical knowledge extraction

EDUCATION

Tufts University, Medford, Massachusetts U.S.A.

Ph.D. in Computer Science (*Computational Biology*) **expected Aug 2010**

- Dissertation: “*Structure and Evolution of Biological Networks: A Systems Biology Approach to Understanding Protein Function*”
- Ph.D. Advisor: Donna K. Slonim

M.S. in Computer Science (*Computational Biology*)

Dec 2007

Relevant coursework:

- Computational and Systems Biology
- Algorithms and Data Structures
- Machine Learning
- Artificial Intelligence

The University of Melbourne, Victoria, Australia

B.S. in Mathematics

Dec 2002

B.E. in Software Engineering

Dec 2002

ACADEMIC EXPERIENCE

Tufts University, Medford, Massachusetts U.S.A.

Research Assistant

Dec 2005 – Present

Undertook computational biology research projects in:

- Analysis of degree conservation in protein-protein interaction (PPI) networks
- PPI network topology-driven characterization of regulatory hubs
- Statistical evaluation of biological networks reconstructed from gene expression data
- Protein interaction extraction with natural language processing
- Global analysis of dinucleotide repeat expansions in human gene promoters

Also undertook interdisciplinary research projects in:

- Machine learning approaches to biomedical text classification
- Molecular simulation of dynamic enzyme inhibition processes

Tufts University, Medford, Massachusetts U.S.A.

Teaching Assistant

Fall 2006 – 2009

Assisted the teaching of graduate-level courses in computational biology and machine learning. Shared responsibility for lectures, exams, homework assignments and grades.

- COMP 167 Computational Biology Fall '06, '07, '08
- COMP 135 Machine Learning Fall '09

PUBLICATIONS A.D. Fox, D. Taylor, and D.K. Slonim. (2009) High Throughput Interaction Data Reveals Degree Conservation of Hub Proteins, *Pacific Symposium on Biocomputing*, 14:391-402.

A.D. Fox, W.A. Baumgartner, H.L. Johnson, L.E. Hunter, D.K. Slonim. (2010) Mining Protein-Protein Interactions from GeneRIFs with OpenDMAP, *Lecture Notes in Computer Science*, Linking Literature, Information, and Knowledge for Biology, 6004:45–55.

A.D. Fox, B.J. Hescott, A. Blumer, and D.K. Slonim. (2010) Connectedness of PPI Network Neighborhoods Identifies Regulatory Hubs (in preparation).

CONFERENCE PRESENTATIONS A.D. Fox, D. Taylor, and D.K. Slonim. (2009) Degree Conservation in Protein Interaction Networks, *Pacific Symposium on Biocomputing*.

A.D. Fox, W.A. Baumgartner, H.L. Johnson, L.E. Hunter, D.K. Slonim. (2009) Ontology-driven Concept Recognition for Protein-Protein Interaction Extraction, *17th International Conference on Intelligent Systems for Molecular Biology / European Conference on Computational Biology (ISMB/ECCB)*.

CONFERENCE POSTERS A.D. Fox, D.K. Slonim, Regulatory Hub Identification in Yeast. (2007) *RECOMB Satellite Conference on Regulatory Genomics*.

PROFESSIONAL EXPERIENCE ANZ Banking Corporation Ltd. Victoria, Australia
Management Information Systems (MIS) Analyst Jan 2003 – Jun 2005

- Optimized existing financial reports and developed requirements and design specifications for new financial reports. Managed implementation of new reports.

COMPUTER SYSTEMS KNOWLEDGE *Programming Languages:* Java, C, C++, Python, Perl, R, Lisp
Software Design Methodologies: Object-Oriented, Procedural, Functional
Operating Systems: Linux/UNIX, Windows

OTHER INTERESTS Cycling, Travel, Snowboarding, Yoga and Popular Science.