

Objective

Collaborative Research in Information Retrieval System Implementation and Efficiency

Education

Doctorate of Philosophy, Computer Science
University of Massachusetts – Amherst GPA: 3.8 (Sept 2007 – Sept 2012 (expected))

Master of Science, Computer Science
University of Nevada, Las Vegas GPA: 3.9 (Feb 2003 – May 2007)

Bachelor of Science, Computer Science
Stanford University GPA: 3.3 (Sept 1998 – Jun 2002)

Relevant coursework

- Information Retrieval
- Machine Learning
- Theory of Computation
- Advanced Algorithms
- Distributed Systems
- Randomized Online Algorithms
- Adv. Topics in IR
- Research Methods
- Advanced ML
- Grid Computing
- Graphical Models

Publications

- Marc-Allen Cartright, Henry Feild, and James Allan. "Evidence Finding using a Collection of Books". Proceedings of the 20th ACM Conference on Information and Knowledge Management BooksOnline Workshop (BooksOnline '11), Glasgow, Scotland.
- Marc-Allen Cartright and James Allan. "Efficiency Optimizations for Interpolating Subqueries". Proceedings of the 20th ACM Conference on Information and Knowledge Management (CIKM '11), Glasgow, Scotland, pp. 297-306.
- Marc-Allen Cartright, Ryen White, and Eric Horvitz. "Intentions and Attention in Exploratory Health Search". Proceedings of the 34th International ACM SIGIR Conference on Research and Development in Information Retrieval (Beijing, China, July 24-28, 2011). SIGIR '11. ACM, New York, NY, 65-74.
- Marc-Allen Cartright, James Allan, Andrew McGregor, and Victor Lavrenko. "Fast Query Expansion Using Approximations of Relevance Models". Proceedings of the ACM 19th Conference on Information and Knowledge Management (CIKM), Toronto, Canada. Oct. 26-30, 2010.
- Cartright, M., Seo, J., and Lease, M. "UMass Amherst and UT Austin @ The TREC 2009 Relevance Feedback Track". Proceedings of TREC 2009.
- Cartright, M., Aktolga, E., and Dalton, J. 2009. "Characterizing the subjectivity of topics". In Proceedings of the 32nd international ACM SIGIR Conference on Research and Development in information Retrieval (Boston, MA, USA, July 19 - 23, 2009). SIGIR '09. ACM, New York, NY, 642-643.
- Elif Aktolga, Marc-Allen Cartright, and James Allan. "Cross-Document Cross-Lingual Coreference Retrieval". Proceedings of the ACM 17th Conference on Information and Knowledge Management (CIKM), Napa Valley, California USA. Oct. 26-30, 2008.
- Cartright, M. and Bendersky, M. "Towards Scalable Data-Driven Authorship Attribution". CIIR Technical Report. 2008.
- Cartright, M., Taghva, K. "Document Boundary Determination Using Structural and Lexical Analysis". Master's Thesis, Department of Computer Science, UNLV. Lied Library, University of Nevada, Las Vegas. 2007.

Presentations

- "UMass Amherst and UT Austin @ The TREC 2009 Relevance Feedback Track". TREC 2009.

Teaching Experience

University of Massachusetts Amherst
Amherst, MA (Jan 2008 – Present)

Teaching Associate (CS197c – C++ Programming for Java Programmers)

- Assumed full responsibilities for implementation of the class, including:
 - Choosing and reciting lecture topics
 - Creating and grading homework assignments
 - Holding office hours, responding to student concerns on course material
- Have taught 4 semesters of class (class is only offered once per academic year).

Stanford University
Palo Alto, CA (March 2002 – June 2002)

Grading Assistant (CS25 – Introduction to Cryptography)

- Assisted in the grading and evaluation homework assignments.

Professional Experience

University of Massachusetts Amherst
Amherst, MA

(Sept 2007 – Present)

Graduate Research Assistant

- Dynamic optimization of query processing, large-query optimization.
- Analysis of scalability, storage requirements, and approximation of precomputed values of large-scale document collections.
- Investigating various approaches for learning optimal term selection and weighting in relevance feedback.
- Topic mining, duplicate/near-duplicate detection and clustering of email collections.
- Performed query log mining on biomedical query logs to discover statistically significant searching patterns, such as common misspellings, conceptually related keywords, and emergent concepts.
- Used Entity Language Models to perform coreference analysis (specifically alias discovery) on multilingual newswire documents.

Microsoft Research
Redmond, WA

(June 2010 – Sept 2010)

Research Intern, CLUES (Context, Learning and User Exp. For Search) group

- Query log analysis of medically-oriented search logs
- Performed session-level analysis of user behavior
- Research resulted in paper presented at the SIGIR 2011 conference.

Graduate Employee Organization, UMass Amherst
Amherst, MA

(Sept 2007 – Present)

Computer Consultant

- Maintenance of database of graduate student records for insurance
- Ensuring secure access to information for users
- Implementation of all business logic
- Development software to produce outgoing records and process incoming insurance records.

Yahoo Labs!
Sunnyvale, CA

(June 2009 – Sept 2009)

Research Intern, Sponsored Search Optimization

- Assisted with query analytics between test environments
- Session-level analysis of user behavior.

Intel Health Research and Innovation
Las Vegas, NV

(May 2006 – Dec 2006)

Software Network Programmer

- Design of data-collection and X10 control software.
- Implementation of server software using Java.
- Maintenance and further development of system.

The Selling Source, Inc.
Las Vegas, NV

(June 2005 – Sept 2006)

Lead Developer, Software Manager

- Conduct project management and requirements gathering for a high-throughput loan management and processing system, eCash.
- Lead design and development of the eCash processing system.
- Directed team of developers in simultaneous maintenance and development across 3 unique products.

Information Science Research Institute, UNLV
Las Vegas, NV

(Dec 2002 – June 2005)

Research Support Programmer

- Implemented Web-based application for document perusal. (PHP)
- Researching and designing statistically-based document separation and sorting system.
- Assisted in design of multiple document and email classification systems for Department of Energy.
- Studied numerous categorization techniques, including Hidden Markov Models, Bayesian Classifiers, Genetic Algorithms, and Structural Pattern Recognition.

Legal Access Technologies Incorporated
Las Vegas, NV

(June 2002 – Dec 2002)

Software Engineer

- Implemented online processing system for phone-based legal workshops.
- Design and development of Online Case Management System for legal practitioners.

Jet Propulsion Laboratory
Pasadena, CA

(June 2001 – Sept 2001)

Intern Software Engineer, Artificial Intelligence Group

- Developed data collection and verification software of autonomous satellite software system.
- Studied correctness and verification techniques for software systems.

Technical Skills

Languages

- C/C++
- Java
- Ruby
- Python
- Scala
- MATLAB
- R
- PHP
- SQL
- C#
- ASP/ASP.NET
- Flex/Bison
- LaTeX
- Bash

Databases

- Oracle (10g)
- MS SQL Server
- MySQL
- BerkeleyDB

Frameworks/Systems

- SUN Solaris
- Mac OS X
- MS .NET Framework
- Qt
- Hadoop MapReduce
- Apache Httpd, Tomcat
- FOX/FXRuby
- CVS, SVN, Mercurial, Git
- MS Office
- Linux
- Windows XP/2000/.NET
- Lift
- Jetty
- Indri
- Galago