

JONATHAN DERRYBERRY

<http://www.cs.cmu.edu/~jonderry/>

OBJECTIVE

A summer internship position at a leading research laboratory.

EDUCATION

- 2003 - present Carnegie Mellon University
Ph.D. Candidate, Computer Science Department
Advisor: Daniel Sleator
Area: Theory
- 1998 - 2003 Massachusetts Institute of Technology
M.Eng. in Electrical Engineering and Computer Science (GPA: 5.0/5.0)
B.S. in Computer Science and Economics with a minor in Mathematics (GPA: 4.8/5.0)

Graduate Coursework: Theory of Computation, Advanced Complexity Theory, Cryptography, Advanced Cryptography, Algorithms, Randomized Algorithms, Theory of Performance Modeling, Electronic Marketplaces, Machine Learning, Networks, Type Systems, Advanced AI Concepts, Computer Graphics, Optimizing Compilers, Mathematical Games

RESEARCH EXPERIENCE

- 2003 - present Graduate Researcher, Carnegie Mellon University
Worked on auction theory problems, in particular the clearability of combinatorial auctions when bids are restricted to connected sets of graphs in which nodes represent items for sale. Developed an algorithm for recovering a tree from a set of bids, if it exists, such that each bid bundles a connected set of items (motivated by the existence of a known, efficient algorithm for optimally clearing combinatorial auctions over such graphs).
Currently working on various data structure problems, including making progress on the dynamic optimality conjecture for splay trees.
- 2002 - 2003 Master's Thesis: Creating a Web Page Recommendation System for Haystack
Advisor: David Karger, Massachusetts Institute of Technology.
Explored novel machine learning techniques for classifying and ranking web pages according to a user's interests. Built upon a new Bayesian learning algorithm that was specialized for learning over hierarchies, identified its potential faults and proposed solutions to the faults. Used hierarchical learners, in combination with traditional text classification techniques, to rank web pages by expected user interest using their URLs, tabular locations, and body texts. This functionality, as well as a training data gathering mechanism was fully integrated into the Haystack information management system.
- 2002 Undergraduate Thesis: The Evolution of Language without Natural Selection
Advisor: Patrick Winston, Massachusetts Institute of Technology.
Wrote an application that facilitated the study of the evolution of grammatical languages among simulated agents as per Simon Kirby's theory of the evolution of language without natural selection. Performed an array of simulations with varied parameter values to

expand upon Kirby's findings. The trend in the results showed the parameters used by Kirby were at a sharp transition point between disparate evolutionary patterns.

WORK EXPERIENCE

2004	Summer Intern, IBM Research Worked on variants of the resource-constrained project scheduling problem for applications to the steel industry.
2001	Summer Intern, LifeHarbor Investments, Inc. Developed the client-side portion of a three-tier Java application to be used as a tool that facilitates the maintenance of managed accounts.
2000	Summer Intern, Shym Technology: Member of the QA team for a computer security application.
1999	Summer Intern, Vector Marketing Corp.: Sales representative for Vector, sellers of Cutco cutlery.
1998	Olsten Staffing: Performed miscellaneous manual labor as a temp worker.

TEACHING EXPERIENCE

Fall 2004	Teaching Assistant for Undergraduate Algorithms Taught weekly recitations in which lecture material was reviewed and some new material was introduced. Graded written and oral assignments and exams.
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SKILLS

Java, C++, ML, Scheme, Matlab, Mathematica, L^AT_EX, LEDA, Java3D, Weka, Unix, Windows.

PUBLICATIONS

- Vincent Conitzer, Jonathan Derryberry, and Tuomas Sandholm. "Combinatorial Auctions with Structured Item Graphs." *AAAI-04*.
- Jonathan Derryberry. "Creating a Web Page Recommendation System for Haystack." M.Eng. Thesis. 2003. Massachusetts Institute of Technology.
- Jonathan Derryberry. "Exploring Simon Kirby's Parameter Space." Undergraduate Thesis. 2002. Massachusetts Institute of Technology.

INTERESTS

Puzzle solving. Active TopCoder competitor. MIT Crew member during freshman year. Alumnus of Kappa Sigma. Recreational basketball and running. Guitar. Movie aficionado.

PERSONAL DETAILS

Name Jonathan C. Derryberry
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5000 Forbes Ave
15213 Pittsburgh, PA
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REFERENCES

- Daniel Sleator, Professor of Computer Science, Carnegie Mellon University (sleator@cs.cmu.edu).
- Tuomas Sandholm, Associate Professor, Carnegie Mellon University (sandholm@cs.cmu.edu).