

# Christopher Michael Bourke

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## EDUCATION

**University of Nebraska—Lincoln**

December 2008

Doctor of Philosophy, Computer Science

**University of Nebraska—Lincoln**

May 2004

Master of Science, Computer Science

**University of Nebraska—Lincoln**

May 2002

Bachelor of Science, Mathematics & Computer Science

## EXPERIENCE

Assistant Professor of Practice | **Computer Science & Engineering,  
University of Nebraska—Lincoln**

July 2011 – Current

- Primarily teaching undergraduate Computer Science courses
- Academic curriculum development
- Academic advising
- Software project development supporting the department's educational mission

Optimization Systems Engineer | **Werner Enterprises**

April 2010 – July 2011

Designed, built, and maintained optimization software for a leading transportation and logistics company

Lecturer & Project Manager | **University of Nebraska—Lincoln**

August 2007– April 2010

Lectured Computer Science courses, managed the Graduate Admissions Management and Evaluation System (GAMES)

## RECENT TEACHING

- ✚ Learn to Code (CSCE 120)
- ✚ Computer Science I – Systems Engineering Focus (CSCE 155E)
- ✚ Computer Science I – Honors (CSCE 155H)
- ✚ Computer Science II, regular and honors (CSCE 156, 156H)
- ✚ Discrete Mathematics, regular and honors (CSCE 235, 235H)
- ✚ Algorithms & Data Structures (CSCE 310)
- ✚ Cryptography & Computer Security (CSCE 477/877)

## SOFTWARE PROJECTS

- ✚ Developer, administrator for the CSE Four Year Course Planner system (2013 – current)
- ✚ Developer, administrator for the CSE Webgrader System (2011 – current)
- ✚ Developer, administrator for the CSE Course Management System (2010 – current)
- ✚ Contributor, UNL Web Developer Network (UNL Web templates), (2012 – current)
- ✚ Administrator, Graduate Teaching Assistant Assignment Project (2011 – current)
- ✚ Developer, project manager for the Graduate Admissions Management and Evaluation System (GAMES), (2009 – 2011)

## HONORS AND AWARDS

- ✚ Student Choice Outstanding Teaching Award, 2014
- ✚ Recognition for Contribution to Students – UNL Teaching Council and UNL Parents Association, 2012
- ✚ Student Choice Outstanding Teaching Award, 2012
- ✚ Student Choice Outstanding Teaching Award, 2009.
- ✚ National Science Foundation Award No. OISE-0611220, “NSF East Asia and Pacific Summer Institutes for US Graduate Students,” Summer 2006.
- ✚ Outstanding Graduate Teacher Award, UNL, 2006.

## SERVICE

- ✚ College of Engineering’s College Curriculum & Academic Standards Committee
- ✚ Graduate Teaching Assistant Committee Chair
- ✚ CSE Honors Program Director
- ✚ CSE Curriculum Committee Member
- ✚ CSE Assessment Committee Member
- ✚ CSE Graduate Qualifying Examination Committee Member
- ✚ Computer Science Teacher Association (CSTA) of Nebraska Member
- ✚ UNL Academic Advising Association

## PUBLICATIONS

### Journal

Kun Deng, Yaling Zheng, Chris Bourke, Stephen Scott, and Julie Masciale. New algorithms for budgeted learning. *Machine Learning*, 90:59-90, 2013.

Chris Bourke, Raghunath Tewari, and N. V. Vinodchandran. Directed planar reachability is in unambiguous log-space. *ACM Transactions on Computation Theory*, 1(1):1–17, 2010.

Chris Bourke, Kun Deng, Stephen D. Scott, Robert E. Schapire, and N. V. Vinodchandran. On reoptimizing multi-class classifiers. *Machine Learning*, 71(2-3): 219-242, 2008.

Chris Bourke, John M. Hitchcock, and N. V. Vinodchandran. Entropy rates and finite-state dimension. *Theoretical Computer Science*, 349(3): 392–406, 2005.

### Conference

Derrick Stolee, Chris Bourke, and N. V. Vinodchandran. A Log-space Algorithm for Reachability in Planar Acyclic Digraphs with Few Sources. In Proceedings of the 25<sup>th</sup> Annual IEEE Conference on Computational Complexity, pages 131–138, 2010.

Chris Bourke, Raghunath Tewari, and N. V. Vinodchandran. Directed planar reachability is in unambiguous log-space. In Proceedings of the 22nd Annual IEEE Conference on Computational Complexity, pages 217–221, 2007.

Deng Kun, Chris Bourke, Stephen Scott, Julie Sunderman, and Yaling Zheng. Bandit-based algorithms for budgeted learning. In Proceedings of IEEE International Conference on Data Mining (ICDM), pages 463–468, 2007.

Deng Kun, Chris Bourke, Stephen Scott, and N. V. Vinodchandran. New algorithms for optimizing multi-class classifiers via ROC surfaces. In Proceedings of the 3rd International Workshop ROC Analysis in Machine Learning (ROCML-2006), pages 17–24, June 2006. Held within the 23<sup>rd</sup> International Conference on Machine Learning (ICML'06).

### Manuscript

Chris Bourke. Contributions to Computational Complexity and Machine Learning: Unambiguity in Log-space Computations and Reoptimizing Multi-Class Classifiers. PhD thesis, University of Nebraska—Lincoln, 2008.

Chris Bourke. A note on the Karp-Lipton collapse for the exponential hierarchy. Technical Report UNL-CSE-2007-0004, University of Nebraska—Lincoln, 2007.

Chris Bourke. Finite-state dimension of individual sequences. Master's thesis, University of Nebraska—Lincoln, May 2004.