Bob Flagg

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bob@calcworks.net
http://bobflagg.com
6 Eastern Prom #1
Portland, ME 04101
(207) 671-1101

Education

Statements of Accomplishment in ML, AI, NLP, Computing for Data Analysis, Design and Analysis of Algorithms, and Algorithms (Part I) from Coursera, 2012

Certificate in Quantitative Finance, 7city Learning, 2011

Ph.D. in Mathematics, SUNY at Buffalo, Buffalo, NY, 1984

M.A. in Mathematics, UMO, Orono, ME, 1979

Work Experience

Natural Language Processing Consultant   2012–
Newstex   newstex.com
Developing named entity recognition, key phrase extraction, and text classification tools in Python (with NLTK, numpy and matplotlib) and in Java.

Software Architect   2008–2010
Prefab Software, Inc.   Chelmsford, MA
Developed machine learning applications in Python, R and BASH to support **Blogcosm**, a reference site about blogging and the blogosphere.

Senior Software Developer   2003–2008
Sight Software, Inc.   Lyme, NH
Participated in the development of Pro/Sight, a J2EE application which supports on-the-fly analysis of complex business processes and forecasting.

Software Developer   2000–2003
Outcome Sciences, Inc.   Cambridge, MA
Participated in the development of the OSI POINT System, a state-of-the-art, highly scalable, web-based platform enabling real-time data capture and reporting for medical, pharmaceutical, medical device and biotechnology industries.

Associate Professor of Mathematics   1993–2000
University of Southern Maine   Portland, ME
Taught courses on theoretical computer science, numerical analysis, developed web-based instructional tools and conducted research in the mathematical foundations of programming language semantics.

Assistant Director of the Program for   1988–1989
Foundational Studies
Ohio State University   Columbus, OH
Assisted in the direction of the Program for Foundational Studies and conducted research in mathematical logic and the foundations of mathematics.

Assistant Professor of Mathematics   1987–1993
University of Southern Maine   Portland, ME

Taught a wide range of mathematics courses and published several papers on the mathematical foundations of programming language semantics.

Mathematics Instructor   1984–1987
Ohio State University   Columbus, OH
Taught undergraduate and graduate mathematics courses and conducted research in mathematical logic and the foundations of mathematics.

Qualifications

Excellent analytical and problem solving skills

Solid understanding of machine learning and natural language processing

Several years of experience developing business intelligence and statistical applications with Java/J2EE and SWING

Expertise in Python, Java, Django, shell scripting with BASH and statistical analysis with R

Familiarity with Django, Sencha Touch, JavaScript, and HTML 5

Publications

(with A. Flagg, D. Tam, K. MacLean) *Conductive fur sensing for a gesture-aware furry robot*, IEEE Haptics Symposium, 2012.

(with Krzysztof Ciesielski and Ralph Kopperman) *Polish spaces, computer approximation, and co-compact quasimetrizability*, Topology Appl. 119(3) (2002), 241256; MR 2003a:54032.

(with Philipp Sünderhauf) *The essence of ideal completion in quantitative form*, Theoretical Computer Science 278, 141-158 (2002)

(with M.H. Escardo) *Semantic domains, injective spaces and monads*, Electronic Notes in Theoretical Computer Science 20 (1999)

(with Ralph Kopperman) *Continuity spaces: Reconciling domains and metric spaces*, Theoretical Computer Science 177, 111-138 (1997)

Algebraic theories of pospaces. Topology and Its Applications 77(3), 277290 (1997)

(with Ralph Kopperman) *Computational Models for Ultrametric Spaces*, Electronic Notes in Theoretical Computer Science 6, 151-159 (1997)

(with Krzysztof Ciesielski and Ralph Kopperman) *Characterizing topologies with bounded complete computational models*, Electron. Notes Theor. Comput. Sci. 20 (1999)

Quantales and Continuity Spaces, Algebra Universalis 37, 257-276 (1997)

(with Ralph Kopperman) *Fixed points and reflexive domain equations in categories of continuity spaces.* Electr. Notes Theor. Comput. Sci. 1: (1995)

(with Ralph Kopperman) *The Asymmetric Topology of Computer Science*, MFPS 1993: 544-553

(with H. Friedman) *A Framework for Measuring the Complexity of Mathematical Concepts*, Advances in Applied Mathematics 11, 1-34 (1990)

(with John Myhill) *A Type-Free System Extending (ZFC)*, Annals of Pure and Applied Logic 43, 79-97 (1989)

(with John Myhill) *Implication and Analysis in Classical Frege Structures*, Annals of Pure and Applied Logic 34, 33-85 (1987)

(with John Myhill) *An Extension of Frege Structures*, Mathematical Logic and Theoretical Computer Science (1987)

κ-*Continuous Lattices and Comprehension Principles for Frege Structures*, Annals of Pure and Applied Logic 36, 1-16 (1987)

(with H. Friedman) *Maximality in Modal Logic*, Annals of Pure and Applied Logic 34, 99-118 (1987)

(with H. Friedman) *Epistemic and Intuitionistic Formal Systems*, Annals of Pure and Applied Logic 32, 53-60 (1986)

Integrating Classical and Intuitionistic Type Theory, Annals of Pure and Applied Logic 32, 27-51 (1986)

Epistemic Set Theory is a Conservative Extension of Intuitionistic Set Theory, Journal of Symbolic Logic 50, 895-902 (1985)

Churchs Thesis is Consistent with Epistemic Arithmetic, Intensional Mathematics, 121-172 (1985)

(with P. Kleban) *Chemisorption on Stepped Surfaces: 0/Stepped W(110)*, Surface Science 103, 552-621 (1981)

On the Independence of the Bigos-Kalmar Axioms for Sentential Calculus, Notre Dame Journal of Formal Logic 19 (2), 285-288 (1978)

Service In Discipline

Co-organized the *Northeastern Conference on Topological Methods in Computer Science*, University of Connecticut at Stamford, April 10, 1999

Chaired the local organizing committee of the *11th Summer Conference on General Topology and Applications*, University of Southern Maine, August 10 - 13, 1995

Member, steering committee *The Maine Calculus Consortium*, 1992.

Adjunct member of the *Assessment, Research and Curriculum Development Committee of Beacon College*, 1992.

Co-organized *An Information Exchange on Calculus Reform*, University of Southern Maine, Fall, 1992.

Co-organized the *Interdisciplinary Conference on Axiomatic Systems*, The Ohio State University, Fall, 1988.

Acted as assistant director of the *Program for Foundational Studies*, The Ohio State University, 1988 - 1989.