
Simon Lacoste-Julien

Curriculum Vitae

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EDUCATION

- **University of California, Berkeley** (Aug. 2003 to present)
PhD Candidate in Computer Science
Designated Emphasis in Communication, Computation and Statistics

RELEVANT COURSEWORK:

- convex optimization
- advanced topics in learning and decision making
- graduate probability and statistics
- computer vision seminars on object recognition
- knowledge representation
- statistical natural language processing
- introduction to management of technology

- **McGill University** (Montreal, Canada) (Sept. 1999 – April 2003)
B.Sc. Triple Honours in Mathematics, Physics and Computer Science

First Class Honours in Math. & Physics
First Class Honours in Math. & CS
Anne Molson Gold Medal (best in math)
Dean's Honour List

GPA: 3.96 / 4.00

AWARDS AND FELLOWSHIPS

- NSERC Postgraduate Scholarship (Canadian NSF) (\$21,000 for 3 years) in 2005
- NATEQ Scholarship (equivalent to Quebec NSF) (\$15,000\$ for 2 years) in 2003
Ranked first in the Mathematical Sciences competition
- Berkeley Graduate Fellowship (tuition + \$16,900) in 2003
- McGill Moyse Travelling Scholarship (\$11,000 to study abroad) in 2003
Only one awarded in the Faculty of Science of McGill University
- Cornell, MIT and McGill fellowship (declined) in 2003

McGill University:

- Anne Molson Scholarship (\$1,000 for excellence in physics) in 2002
- Sir Edward Beatty Memorial Scholarship (\$750 for excellence in maths) twice in 2001 and 2002
- NSERC University Summer Research Scholarship (\$5,000 for summer research) three times from 2001 to 2003
- J.W. McConnell Entrance Scholarship (\$3,000 renewed for 4 years) from 1999-2003

PUBLICATIONS

Journal Papers

- [1] B. Taskar, **S. Lacoste-Julien**, and M. Jordan (2006). “Structured Prediction, Dual Extragradient and Bregman Projections”, *Journal of Machine Learning Research (JMLR), Special Topic on Machine Learning and Large Scale Optimization*, 7:1627-1653.

Refereed Conference Proceedings

- [2] **S. Lacoste-Julien**, B. Taskar, D. Klein and M. Jordan (2006). “Word Alignment via Quadratic Assignment”, *Proceedings of the North American Chapter of the Association for Computational Linguistics Annual Meeting (HLT-NAACL)*.
- [3] B. Taskar, **S. Lacoste-Julien**, and M. Jordan (2006). “Structured Prediction via the Extragradient Method”, *Advances in Neural Information Processing Systems (NIPS) 18*, MIT Press.
- [4] B. Taskar, **S. Lacoste-Julien**, and D. Klein (2005). “A Discriminative Matching Approach to Word Alignment”, *Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
- [5] **S. Lacoste-Julien**, H. Vangheluwe, J. de Lara and P. Mosterman (2004). “Meta-Modelling Hybrid Formalisms”, *IEEE International Symposium on Computer-Aided Control System Design*, IEEE Computer Society Press.

TEACHING EXPERIENCE

Computer Science 188, UC Berkeley, Fall 2007 – Artificial Intelligence (undergraduate course) – Graduate student instructor; gave weekly section and designed homework.

Computer Science 294-10, UC Berkeley, Fall 2006 – Practical Machine Learning (graduate course) – Head graduate student instructor; designed and gave one lecture, as well as ensured continuity of the class (taught by 15 different grad students) with projects, assignments, etc.

Computer Science 281a, UC Berkeley, Fall 2005 – Statistical Learning Theory (graduate course) – Graduate student instructor; gave weekly section.

Mathematics Helpdesk Tutor, McGill University, 2002-2003; I did one-on-one tutoring on any undergraduate mathematics topic.

Mathematics 266A, McGill University, Fall 2000 – Linear Algebra and Boundary Value Problems (undergraduate class) – Teaching assistant; gave weekly section.

Mathematics 265C, McGill University, Summer 2000 – Advanced Calculus
(undergraduate class) – Teaching assistant; gave biweekly section.

RESEARCH EXPERIENCE

UC Berkeley, Statistical Artificial Intelligence Laboratory (SAIL)

Graduate Student Researcher, July 2003 - present

Machine learning research in collaboration with Prof. Michael Jordan and Prof. Dan Klein

- Implemented a state of the art discriminative approach to word alignment for machine translation.
- Designed scalable algorithms for structured prediction (in collaboration with Ben Taskar).
- Worked on topic models for information retrieval and text categorization.
- Worked on combining graphical models with kernel methods with an application in computer vision

Yahoo! Research

Intern, May 2006 – August 2006

Machine learning research under the supervision of Andrew Tomkins and Vanja Josifovski

- Designed a principled hierarchical feature selection scheme using L1-L2 norm for the task of webpage hierarchical classification.

Helsinki Institute of Information Technology

Invited Researcher, May 2004-June 2004, August 2005

Collaborated on the Next Generation Information Retrieval project with Wray Buntine and Henry Tirri

- Investigated the use of topic models and discriminative approaches in information retrieval.

McGill University, Modelling, Simulation and Design Laboratory (MSDL)

Undergraduate researcher, May 2002-August 2002

Research on Hybrid Systems modelling and simulation with Prof. Hans Vangheluwe

- Implemented a visual modelling and simulation environment for Hybrid Systems with differential algebraic equations support in Python.
- Invented new visual formalism to model hybrid systems (code on my McGill webpage).

McGill University, Reasoning and Learning Laboratory

Undergraduate researcher, May 2001-August 2001

Research on Delay Differential Equations with Prof. Prakash Panangaden

- Studied the existence and stability properties of DDEs in analogy with a weak dataflow fixed point existence theorem.

ACADEMIC SERVICE

- Reviewer for:
 - Journal of Machine Learning Research (JMLR)
 - Neural Information Processing Systems (NIPS)
 - International Conference of Machine Learning (ICML)
 - International Conference on AI and Statistics (AISTATS)

- Departmental service at UC Berkeley:
 - Computer Science Graduate Student Association (CSGSA) Visit Day Committee, Spring 2006-2007
 - Student member of Graduate Admission Committee, Spring 2006-2007
 - Chair of CSGSA Faculty Candidate Committee, Spring 2006
 - Head of CSGSA Orientation Committee, Fall 2004