YAHOO! LABS BANGALORE

"Torrey Pines", EGL Business Park
Bangalore, India 560 071

www.cs.toronto.edu/~vnair
vnair@yahoo-inc.com

VINOD NAIR

CURRICULUM VITAE

EDUCATION

- Doctor of Philosophy, University of Toronto (Sept. 2004 – Jan. 2010)
  Department of Computer Science, Machine Learning Group
  Thesis Title: Visual Object Recognition Using Generative Models of Images
  Supervisor: Geoffrey E. Hinton
- Master of Engineering, McGill University, Canada (Jan. 2002 – March 2004)
  Department of Electrical and Computer Engineering, Centre for Intelligent Machines
  Thesis Title: Learning-Based People Detection Systems for Video Surveillance
  Supervisor: James J. Clark
  GPA: 4.00/4.00
- Bachelor of Engineering, McGill University, Canada (Sept. 1998 – Dec. 2001)
  Electrical Engineering (Honours)
  GPA: 3.94/4.00

INDUSTRIAL RESEARCH APPOINTMENTS

- Research Scientist, Yahoo! Labs Bangalore (Oct. 2010 –)
  Manager: Dr. Rajeev Rastogi
- Research Consultant (part-time), VisionSphere Technologies Inc., Montreal (Jan. 2001 – Jan. 2002)
  Supervisor: Prof. Martin D. Levine

ACADEMIC RESEARCH APPOINTMENTS

- Postdoctoral Fellow, University of Toronto (Feb. – June 2010)
  Department of Computer Science, Machine Learning Group
  Supervisor: Prof. Geoffrey E. Hinton
- Research Assistant, University of Toronto (Sep. 2004 – Jan. 2010)
  Department of Computer Science, Machine Learning Group
  Supervisor: Prof. Geoffrey E. Hinton
- Research Assistant, McGill University (May – Aug. 2004)
  Department of Computer Science, Reasoning and Learning Laboratory
  Supervisor: Prof. Doina Precup
- Research Assistant, McGill University (Jan. 2002 – Dec. 2003)
  Dept. of Elec. & Comp. Eng., Centre for Intelligent Machines
  Supervisor: Prof. James J. Clark
- Research Assistant, McGill University (May – Aug. 2000)
  Dept. of Elec. & Comp. Eng., Centre for Intelligent Machines
  Supervisor: Prof. James J. Clark

SCHOLARSHIPS AND AWARDS

- Fonds Quebecois de la Recherche sur la Nature et les Technologies: Bourses de doctorat en recherche (CAD $20,000, 2006–2007)

- Natural Sciences and Engineering Research Council (NSERC) of Canada: Postgraduate Scholarship (Doctoral) (CAD $42,000, 2004–2006)
- NSERC Postgraduate Scholarship (Master's) (CAD $34,600, 2002–2004)
- Second prize for best poster, Precarn/IRIS Conference, Calgary, Canada (CAD $1,000, June 2002)
- McConnell Award from McGill University for top 5% of all students in the Faculty of Engineering (CAD $1,000, Sept. 2000)
- NSERC Undergraduate Student Research Award (CAD $5000, May–August 2000)
- McConnell Award from McGill University for top 5% of all students in the Faculty of Engineering (CAD $500, Sept. 1999)
- McConnell Admission Scholarship from McGill University (CAD $8,000, 1998-2001)
- Dean's List award from Champlain College, Saint-Lambert, Canada, for top 3% of all students in the college (1997, 1998)
- Governor General's Academic Medal, awarded to the student graduating with the highest average grade from a high school (1996)

TEACHING

- Course Instructor, Department of Computer Science, University of Toronto
  CSC 190: Computer Algorithms, Data Structures and Languages
  The course covered various data structures such as linked lists, trees and graphs, algorithms for sorting and searching, and theoretical analysis of their running time. (Winter 2009)

- Teaching Assistant, Department of Computer Science, University of Toronto
  CSC 190: Computer Algorithms, Data Structures and Languages (Winter 2008)
  CSC 180: Introduction to Computer Programming (Fall 2008, 2009)

VOLUNTEER WORK

- Food server at The Scott Mission food bank, Toronto, Canada (2010)

- Core Volunteer for the Saturday Program, a tutoring service organized by the Faculty of Medicine, University of Toronto, for struggling high school students from inner-city schools. (2008, 2009)

- Peer tutor at the Learning Centre, Champlain College, Saint-Lambert, Canada, helping junior students with mathematics courses. (Jan. – May 1998)

PUBLICATIONS

1. Nakul Verma, Dhruv Mahajan, Sundararajan Sellamanickam, & Vinod Nair
   Learning Hierarchical Similarity Metrics
   IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2012, Providence, USA
2. Vinod Nair, Dhruv Mahajan, & Sundararajan Sellamanickam
   A Unified Approach to Learning Task-Specific Bit Vector Representations for Fast Nearest Neighbor Search
   World Wide Web Conference (WWW) 2012, Lyon, France.
3. Dhruv Mahajan, Sundararajan Sellamanickam, & Vinod Nair
   A Joint Learning Framework for Attribute Models and Object Descriptions
   International Conference on Computer Vision (ICCV) 2011, Barcelona, Spain.

4. Vinod Nair & Geoffrey E. Hinton
   Rectified Linear Units Improve Restricted Boltzmann Machines
   International Conference on Machine Learning (ICML) 2010, Haifa, Israel
5. Vinod Nair & Geoffrey E. Hinton
   3D Object Recognition Using Deep Belief Nets
   Advances in Neural Information Processing Systems 22 (NIPS), 2009, Vancouver, Canada
6. Vinod Nair & Geoffrey E. Hinton
   Implicit Mixtures of Restricted Boltzmann Machines
   Advances in Neural Information Processing Systems 21 (NIPS), 2008, Vancouver, Canada
7. Vinod Nair, Josh Susskind, & Geoffrey E. Hinton
   Analysis-by-Synthesis by Learning to Invert Generative Black Boxes
   International Conference on Artificial Neural Networks (ICANN), 2008, Prague, Czech Republic
8. Ilya Sutskever & Vinod Nair
   Mimicking Go Experts Using Convolutional Neural Networks
   International Conference on Artificial Neural Networks (ICANN), 2008, Prague, Czech Republic
9. Geoffrey E. Hinton & Vinod Nair
   Inferring Motor Programs from Images of Handwritten Digits
   Advances in Neural Information Processing Systems 19 (NIPS), 2006, Vancouver, Canada
10. Vinod Nair, Pierre-Olivier Laprise, & James J. Clark
    An FPGA-based people detection system
    EURASIP Journal on Applied Signal Processing, Vol. 7, pp 1047-1061, 2005
11. Vinod Nair & James J. Clark
    An unsupervised, online learning framework for moving object detection
    IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2004, Washington, D.C., USA
12. Vinod Nair & James J. Clark
    Automated Visual Surveillance Using Hidden Markov Models
    15th Vision Interface Conference, 2002, Calgary, Canada

TALKS

1. "Learning Task-Specific Bit Vector Representations for Fast Nearest Neighbor Search." Invited talk at COMAD 2011, Bangalore, India, December 2011.
2. "Learning Feature Hierarchies for Object Recognition with Deep Belief Nets." Department of Computer Science and Automation, Indian Institute of Science, Bangalore, India, August 2010.
3. "Learning Feature Hierarchies for Object Recognition with Deep Belief Nets." Department of Computer Science and Engineering, Indian Institute of Technology Madras, Chennai, India, August 2010.
4. "Rectified Linear Units Improve Restricted Boltzmann Machines." International Conference on Machine Learning, Haifa, Israel, June 2010.
5. "Rectified Linear Units Improve Restricted Boltzmann Machines." University of Toronto Machine Learning Seminar, Toronto, Canada, March 2010.
6. "Deep Belief Nets for Visual Object Recognition." University of Toronto Machine Learning Seminar, Toronto, Canada, November 2008.
7. "Analysis-by-Synthesis by Learning to Invert Generative Black Boxes." International Conference on Artificial Neural Networks, Prague, Czech Republic, September 2008.
8. "Inverting Generative Black Boxes Using Breeder Learning." University of Toronto Machine Learning Seminar, Toronto, Canada, April 2007.
9. "Learning to Do Vision by Inverting a Graphics Model." University of Toronto Machine Learning Seminar, Toronto, Canada, April 2006.

10. “Inferring Motor Programs from Images of Handwritten Digits.” Neural Computation and Adaptive Perception Summer School, Toronto, Canada, August 2005.
11. “Inferring Motor Programs from Images of Handwritten Digits.” McGill University Computer Vision Seminar, Montreal, Canada, June 2005.
12. “An Unsupervised, Online Learning Framework for Moving Object Detection.” IEEE Conference on Computer Vision and Pattern Recognition, Washington, D.C., USA, June 2004.