

Cameron Morland

3847 Parker St.
Burnaby BC V5C 3B5
+1 604 294-5759
cameron@morland.ca

PERSONAL Canadian; born April 29, 1979.

EDUCATION **Boston University**, Philosophy Doctorate in the Department of Cognitive and Neural Systems.

- ◇ Study of navigation, 2003 – 2006. Thesis Advisors: Stephen Grossberg and Ennio Mingolla.
- ◇ Study of sensory substitution, audition, and human sonar, 2006 – 2009. Thesis Advisor: David Mountain (Biomedical Engineering).

University of Waterloo, Bachelor of Applied Science, Mechanical Engineering; Mechatronics Option, Cognitive Science Option, September 1998 – April 2003. Undergraduate Project Advisor: Jan Paul Huissoon.

- PUBLICATIONS
1. Mountain, D. and Morland, C. *Acoustic Mobility Aid for the Visually Impaired*, U.S. Patent (in preparation).
 2. Morland, C. and Mountain, D. *Design of a Sonar System for Visually Impaired Humans*. in *Proceedings of the 14th International Conference on Auditory Display*, 2008.
 3. Morland, C. and Mountain, D. *An Acoustic Mobility Aid for the Visually Impaired*. Poster, CIMIT Innovation Congress, November 13-14, 2007. (Awarded Best Student Poster)
 4. Morland, C. *Autonomous Navigation Using Visual Landmarks*. Canadian Undergraduate Journal of Cognitive Science. **1** (2002), 20-33.
 5. Morland, C. *Autonomous Lawnmower Control*. Undergraduate Project Report, University of Waterloo (2002).

- TALKS
1. *What it is Like to be a Bat: A Sonar System for Humans*. PhD Thesis Defence, April 6, 2009.
 2. *What it is Like to be a Bat: A Sonar System for Humans*. PhD Prospectus, Boston University Hearing Research Center Seminar Series, February 29, 2008.
 3. *An Acoustic Mobility Aid for the Visually Impaired*. Boston University Cochlear Biophysics Laboratory group, April 23, 2007.
 4. *An Acoustic Mobility Aid for the Visually Impaired*. Boston University Binaural Gang, April 17, 2007.

- WORK EXPERIENCE**
- MRI Research Assistant**, Hospital for Sick Children (Toronto), Medical Imaging Department. (Winter & August 2002) Research in physics of functional MRI. Supercomputing applications using IPC and POSIX threads.
- AI Researcher**, Applied AI Systems, Inc. (Summer 2001). Developed vision based landmark recognition and landmark navigation on an intelligent wheelchair. Over-saw rapid construction of the chair.
- AI Researcher**, Applied AI Systems, Inc. (Fall 2000). Examined the problem of compliant manipulators, especially as related to Behaviour-Based robotics. Constructed a computer controlled prototype.
- Assistant Engineer**, Dew Engineering (Winter 2000). Mechanical and electrical design and prototyping of an instrumented landmine prodder.
- Associate Systems Engineer**, ATI Technologies Inc. (Summer 1999). UNIX system administration and programming. Maintained SAP system, developed dynamic web pages. Created administrative tools.
- Programmer**, Carleton University Electrical and Computer Systems Department (1996 – 1997). Programmed a pair of robots, inter-computer communications, joint manipulation, and a command interpreter.
- TEACHING**
- Seminar Participant** *Teaching in the College Classroom Using Nonverbal Communicative Intelligence: Navigating through Perception and Practice*, August 29, 2007.
- Teaching Fellow, CN570** (Neural and Computational Models of Conditioning, Reinforcement, Motivation and Rhythm), Boston University, Winter 2005. Responsible for holding office hours, proctoring, and some marking.
- GRANTS**
- Coulter Foundation** Translational Partnership award (2007 – 2009)
- Biomedical Engineering Departmental** Seed Grant (2006 – 2007)
- AWARDS AND SCHOLARSHIPS**
- Leonardo da Vinci Scholar**, for outstanding achievement in the University of Toronto engineering contest, 1998.
- High standing in countless mathematics competitions and the 1998 Canadian Computing Competition.
- Lisgar Academic Achievement Award.
- COMPUTER EXPERIENCE**
- High Performance Computing Workshop**, Boston University Scientific Computing and Visualization Group, October 27 – 28 2005.
- Free Software Maintainer**
- ◇ *changetrack* file monitor (1999 to present)
 - ◇ *octplayer* library for Player, used in robotics research (2004 to present)
 - ◇ *RASP* sneakernet proxy (2007 to present)
- CONFERENCES ATTENDED**
- Acoustics'08**, Paris, June 29/July 4, 2008.
- International Conference on Auditory Display**, Paris, June 23/27, 2008.

International Conference on Cognitive and Neural Systems, Boston, annually, May 2003-2007.

International Joint Conference on Neural Networks, Montreal, August 2005.

Binaural Bash, annually, Boston, October, 2006-2007.

CIMIT Innovation Congress, Boston, November 13-14, 2007.

RESEARCH
INTERESTS

Human/Machine interfaces, autonomous/intelligent machines, space perception, machine-modulated perception.