
EDUCATION

University of California, Berkeley

Ph.D. in Computer Science Fall 2008 - Now
Cumulative GPA of 4.0 / 4.0
Recipient of the NSF Graduate Research Fellowship, 2009-2012

University Of Toronto

Computer Science Specialist: Artificial Intelligence Option (Honors B.Sc.) Fall 2003 – Spring 2007
Cumulative GPA of 3.73 / 4.0
Graduated with High Distinction
Dean's List Scholar (2004, 2005, 2006, 2007)
Dr. James A. & Connie P. Dickson Scholarship in the Sciences and Mathematics (2006, 2007)

ACADEMIC RESEARCH EXPERIENCE

University of California, Berkeley - Prof. Jitendra Malik

Graduate Student Researcher Fall 2008 - Now
- Developed methods for large-scale contextual texture classification.
- Worked on image analysis techniques for automated tuberculosis diagnosis on mobile phones, for use in developing regions.

New York University - Prof. Rob Fergus, Prof. David W. Hogg, Prof. Yann LeCun

Junior Research Scientist Fall 2007 – Spring 2008
- Explored applications of deep belief nets for content-based image retrieval in MIT's "80 million tiny images" dataset.
- Extended the Astrometry.net solver to estimate the date of origin and camera distortion of an image.
- Designed a vision system to determine the pose and classification of a galaxy from a single image.

University Of Toronto - Prof. Sam Roweis

Research Assistant Spring 2007 – Summer 2007
- Designed a system for removing optical defects from the USNO-B catalog, which has over a billion stars.
- Improved the Astrometry.net source extraction system for detecting sources of light in images of the sky.

University Of Toronto - Prof. Fahiem Bacchus

Research Assistant Fall 2007
- Developed MiniHypre, a SAT (satisfiability) preprocessor based on hyper-binary resolution and equality reduction.

SCIENTIFIC PUBLICATIONS

Deeds, J. D., Ostrom, L., He, D., Miller, C., Conway, C., Mosher, R., Barron, J. T., **Automated detection of basal cell keratinocytes for quantification of immunohistochemistry biomarkers**, Arch Pathol Lab Med 2009, Vol 133 no. 7, p 1151

Barron, J. T., Hogg, D. W., Lang, D., Roweis, S., 2008, **Blind Date: Using proper motions to determine the ages of historical images**, *Astronomical Journal*, **136** (2008) 1490-1501 (arXiv: astro-ph/0805.0759)

Barron, J. T., Stumm, C., Hogg, D. W., Lang, D., Roweis, S., 2008, **Cleaning the USNO-B Catalog through automatic detection of optical artifacts**, *Astronomical Journal*, **135** (2008) 414-422 (arXiv: astro-ph/0709.2358)

PRESENTATIONS

Barron, J. T., Dean, T., **Internet-sized semantic hashing for rapid image search**, Intern Poster Session, Google NYC, New York, NY; August 14, 2008

Barron, J. T., Mosher, R., **Computer vision techniques for automated slide classification**, NIBR Summer Intern Poster Session 2007, Novartis Institutes for BioMedical Research, Cambridge, MA; August 16, 2007

Barron, J. T., Hogg, D. W., **Cleaning the USNO-B Catalog through automatic detection of optical artifacts**, Center for Cosmology and Particle Physics, New York University, New York, NY; June 1, 2007

Barron, J. T., L'Italien, A., Rhodes, B., **GCoast: a dynamic web-based interface to Seecoast**, BAE Systems: Advanced Information Technologies, Burlington, MA; August 18, 2006

Barron, J. T., Ilardi, P., Rhodes, B., **An interactive environment for assessing 3DESP**, BAE Systems: Advanced Information Technologies, Burlington, MA; August 12, 2005

EMPLOYMENT HISTORY

NASA Ames Research Center, Moffett Field, CA

Intern (Intelligent Robotics Group)

Summer 2009

- Developed a technique for lunar photogrammetry with wide-baseline stereo, on Apollo imagery.

Google, Mountain View, CA / New York, NY

Software Engineering Intern (Research Group)

Summer 2008

- Explored applications of deep belief nets for content-based image retrieval.

Novartis Institutes for Biomedical Research, Cambridge, MA

Computational Biology Intern, Consultant

Summer 2007

- Designed and implemented a computer vision system for automated tumor segmentation/classification, and Won 2nd place in the 2007 NIBR Cambridge Summer Poster Session for the project.

BAE Systems – Advanced Information Technologies, Burlington, MA

Intern (Multisensor Exploitation Team)

Summer 2006

- Designed a dynamic web interface to the Seecoast AI system for maritime tracking and analysis, and received the BAE AIT 2006 Recognition Award for the project.

Intern (Multisensor Exploitation Team)

Summer 2005

- Prototyped 3DESP, a virtual-reality system for interacting with a 3D scene using audio localization.
- Built and textured an accurate 3D model of the BAE AIT office and surroundings.

STUDENT ACTIVITIES

University Of Toronto

The Gargoyle (newspaper)

- Production Manager (2006, 2007)
- Layout/Graphics Editor (2005, 2006, 2007)

The UC Review (arts and literary magazine)

- Editor in Chief of Layout and Design (2005, 2007)
- Selections Committee Editor (2005, 2006)
- Layout Editor (2004)

Computer Science Student Union (2006, 2007)