Zoya Gavrilov
Curriculum Vitae

PERSONAL INFORMATION

E-mail: zoya@mit.edu; zoya.gavr@gmail.com

EDUCATION

Massachusetts Institute of Technology, PhD Student
- as of Sept. 2012
- Computer Science and Artificial Intelligence Laboratory (CSAIL, EECS)

University of Toronto, Honours B.Sc. with High Distinction
- Sept. 2008 – June 2012
- Major: Computer Science and Statistics Joint Specialist Program

University of Toronto Schools (high school)

RESEARCH EXPERIENCE

Summer Research Student, NSERC – USRA* (May – Sept 2012)
- Supervisor: Sven Dickinson (Computer Vision)
- Project title: "Part Learning to Support Graph-Based Object Recognition"

Graphical model for indexing and classification. MySQL databases for efficient clustering computation and retrieval.

Summer Research Student, Boston University Computer Vision Department (May – Sept 2011)
- Supervisor: Stan Sclaroff (Computer Vision)
- Project: "Detection of Reduplication in American Sign Language Videos"

The first focused attempt at the detection of reduplication in sign language videos. Development of a novel algorithm for unsupervised, inexact motif finding, robust to variations in the representation. Presentation of results on signs containing displacement, and proposed extensions for a generalized framework.

Summer Research Student, NSERC – USRA* (May – Sept 2011)
- Supervisor: Sven Dickinson (Computer Vision)
- Project title: "Part Learning to Support Graph-Based Object Recognition"

Exploration of vote pruning for strengthening indexing capabilities. Incorporation of part-attachment information for input to classifier. Dataset testing.

Project Course – CSC494 (Jan – Apr 2011)

- Supervisors: Sven Dickinson (Computer Vision); Richard Zemel (Machine Learning)

Exploration of approaches for part clustering. Application of machine learning methods for discovering associations between object classification and object-to-parts matching scores.

Summer Research Student, NSERC – USRA* (May – Sept 2010)

- Supervisor: Sven Dickinson (Computer Vision)
- Project title: "Part Learning to Support Graph-Based Object Recognition"
  - *explored shape-based recognition approaches*

Development of a novel framework for parts-based object recognition. Part vocabulary construction by graph matching and recurrent subgraph extraction. Indexing and recognition by matching query to part vocabulary and accumulating votes. (Technical documentation available).

Summer Student, Strother Research Lab, Baycrest Rotman Research Institute (June – Aug 2009)

- Supervisor: Stephen Strother (Medical Biophysics)
- PLS NPAIRS fMRI imaging software development and testing

* National Science and Engineering Council Undergraduate Summer Research Award

PUBLICATIONS

Zoya Gavrilov, Stan Sclaroff, Carol Neidle and Sven Dickinson , "Detecting Reduplication in Videos of American Sign Language," *Proc. Eighth International Conf. on Language Resources and Evaluation (LREC), 2012.*

PRESENTATIONS/CONFERENCES

Detecting Reduplication in Videos of American Sign Language (May 2012)

- Zoya Gavrilov*, Stan Sclaroff, Carol Neidle, Sven Dickinson
- * Presented poster
- 8th Language Resources and Evaluation Conference (LREC 2012)

Detecting Reduplication in Videos of American Sign Language (March 2012)

- Zoya Gavrilov*, Stan Sclaroff, Carol Neidle, Sven Dickinson
- * Presented poster
- Research in Action Showcase, University of Toronto

Part Learning to Support Graph-Based Object Recognition (Aug 2010)

- Zoya Gavrilov*, Sven Dickinson, Diego Macrini
- * Presented poster
- University of Toronto Computer Science Undergraduate Research Showcase

TEACHING EXPERIENCE

Teaching Assistant, University of Toronto Computer Science Department (Jan – April 2012)

- CSC108: Introduction to Computer Programming
- 54-hour position; Duties: laboratories/tutorials, marking

Teaching Assistant, University of Toronto Computer Science Department (Sept – Dec 2011)

- CSC165: Mathematical Expression and Reasoning for Computer Science
- 54-hour position; Duties: office hours, marking

Mathematics Tutor (ongoing)

- Avg. 2-3 students at any given time; 1-3 hours/week per student
- Employed by Qualified Tutors (since June 2009)
- Private tutoring (since December 2008)
- Volunteer tutoring, University of Toronto Schools (September 2007 – December 2008)

SUMMER SCHOOLS

- **York-MITACS Vision Science Summer School (May 16-20, 2011)**
  - Location: Centre for Vision Research, York University, Toronto, Canada
  - Competitive application process (20 accepted applicants, domestic and international)

WORK EXPERIENCE

Computer Lab Supervisor (Oct 2007 – June 2008)

- University of Toronto Schools
  - Online conference moderation, biweekly computer lab supervision

Interactive Consulting

- Starnet Inc.
  - Online monitoring services (2/2008 - 08/2008)
  - Consultation, project strategies, site research (2007)

AWARDS AND SCHOLARSHIPS

2012

- Merrill Lynch Fellowship, Department of Electrical Engineering and Computer Science, MIT
  - valued at $71,828 for 12 months
- NSERC Postgraduate Scholarship, Masters' level (PGS-M)
  - valued at $17,300 for 12 months
- NSERC Alexander Graham Bell Canada Graduate Scholarship (CGS-M)
  - valued at $17,500 for 12 months
  - declined in favour of PGS-M (tenable at non-Canadian universities)
- Gordon Cressy Award (institutional)
  - *Extra-curricular contributions and leadership*

- Provost's Scholar Award (top 10% of graduates), Trinity College (institutional)
- Undergraduate Summer Research Award, NSERC (national)
- Dean's List for Academic Excellence *(institutional)*

2011

- Semi-finalist, Science, Engineering, and Technology Student of the Year Awards *(international)*
- Canadian Anita Borg Memorial Scholarship Finalist *(national)*
  - *Academic excellence and leadership in computer science*
- Undergraduate Summer Research Award, NSERC *(national)*
- Samuel Beatty In-Course Scholarship for Computer Science *(institutional)*
  - *Academic excellence in mathematical and computer science courses*
- Dean's List for Academic Excellence *(institutional)*
- Queen Elizabeth II Aiming for the Top Scholarship *(provincial)*

2010

- Undergraduate Summer Research Award, NSERC *(national)*
- Dean's List for Academic Excellence *(institutional)*
- Queen Elizabeth II Aiming for the Top Scholarship *(provincial)*

2009

- Salterrae Society Chancellor's Scholarship *(institutional)*
- University of Toronto Scholar *(institutional)*
  - Cumulative GPA: 4.00/4.00
- Computer Science Student Union Service Award for Considerable Contribution *(institutional)*
- Trinity College Entrance Scholarship *(institutional)*
- Dean's List for Academic Excellence *(institutional)*
- Queen Elizabeth II Aiming for the Top Scholarship *(provincial)*

2008

- National Biology Scholar – National Biology Competition *(national)*
- Philosophy Award – University of Toronto Schools *(institutional)*

2007

- Certificate of Distinction – Aristotle Philosophy Essay Contest *(institutional)*
- Certificate of Distinction – Fermat Mathematics Contest *(national)*

2006

- Provincial Ranking (5^{th}) – Michael Smith National Science Challenge *(provincial)*
- Certificate of Distinction – Cayley Mathematics Contest *(national)*
- Bronze Standard – Duke of Edinburough Award *(national)*
- Editor's Choice Award – International Poetry Institute of Canada *(national)*

LEADERSHIP

- Organizer, Undergraduate Artificial Intelligence Day (Sept 2011)
  - Faculty presentations, research dissemination
- Founder and President, U of T Undergraduate Artificial Intelligence Group (Oct 2010 – May 2012)
- Secretary, U of T Statistics Undergraduate Group (Mar – June 2011)
- Public Relations Officer, U of T Computer Science Student Union (May 2009 – May 2010)
- Event coordinator, U of T Russian Student Association Executive (May 2009 – May 2010)
- Student, Faculty of Arts and Science Mentorship Program in Psychology (Jan 2007 – May 2008)
- Coordinator, University of Toronto Schools Culture Show (Sept 2007 – Jan 2008)
- School Paper Columnist, University of Toronto Schools (Sept 2007 – June 2008)
- Delegate, Southern Ontario Model United Nations Conference (April 2007, April 2008)