

Virginia (Gina) Cook: CURRICULUM VITAE

Canadian Permanent Resident & US Citizen

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<http://gina.openlanguage.ca>

RESEARCH INTERESTS

General: Machine Learning of natural language capitalizing on information in audio input, with a focus on agglutinative languages

Specific: Morphological realization of events {CHANGE,RESULT,MANNER}, Semantics-Prosody interface, gathering structured data in a crowd-sourcing context

EDUCATION

Concordia University

Graduate Diploma in Computer Science

Montréal, Québec

2008–2011

Implemented information extraction tools:

Morphological Parser - takes unicode text in any language and finds morphemes, useful for reducing infinite vocabulary space for keyword search in agglutinative languages such as Inuktitut, Finnish, Turkish in websites, databases or versioning of internal documents (Perl, Bash).

Phonology Ontology - takes unicode text in any language and finds phonotactic systematicities to reverse local and long distance phonological/phonetic processes in allophonic writing systems (e.g. consonant assimilation in Inuktitut, vowel harmony in Turkish) allowing for better keyword search. The ontology enables language identification for texts as short as 3-10 words, useful for the multilingual documents which are common in bilingual countries or minority language documents (Python, Java, XML, RDF).

Quantificational Inferencer - takes two English texts which contain quantificational phrases, compares the two to discover whether the second is entailed by the first (Java, Groovy, GATE).

University of Delaware

MA in Linguistics and Cognitive Science

Newark, Delaware

2005–2007

Awarded full scholarship and stipend for linguistic fieldwork in Pakistan

Concordia University

BA with Distinction, Honours Linguistics

Montréal, Québec

1999–2003

Curriculum Committee Member for CMLL (2001-2003)

Linguistic Students Associations President (LSA) or Co-president (2001-2003)

Conference Organizer (NAPhC 1, NASC, NAPhC 2) (2000-2003)

University of Maine

New England Upward Bound Math & Science

Orono, Maine

Summers 1996 & 1997

Math and Science Summer program for gifted high school students in New England.

AWARDS

Tied for first place: Best Use of Technology

Random Hacks of Kindness

Montréal, Québec

December 4 2011

Lead Android Developer and Scrum Master for “Bacteria Detecto-Droid:” an Android app which takes a picture of a petri gel, uses image processing to count bacteria colonies, advises fieldworker whether the water is safe to drink, geotags the water source with its longitude and latitude, and uploads the bacteria counts to a map. The app was designed for the The Portable Microbiology Lab, or PML, which was developed to dramatically reduce the cost and equipment needed for the field detection of bacteria in water. The kit uses off-the-shelf Petrifilm growth media from the food safety industry and a \$100 Android to replace \$20,000 commercial plate scanners.

<http://www.rhok.org/problems/bacteria-counting-app-low-cost-water-monitoring-kit>

TEACHING

Teaching Assistant Engineering and Computer Science, Concordia
Montréal, Québec Spring 2009
Software Engineering 229: Systems Software (Perl, Unix)

Teaching Assistant Engineering and Computer Science, Concordia
Montréal, Québec Spring 2009
Software Engineering 498A: Introduction to Web Software (Perl, HTML5)

English as a Second Language Instructor CTD, Dawson College
Montréal, Québec Spring 2008–Spring 2009
English 5: Advanced English
English 4: Advanced Intermediate English
English 3: Intermediate English

Teaching Assistant Linguistics, U Delaware
Newark, Delaware Spring 2007
Linguistics 101: Introduction to Linguistics

Teaching Assistant Linguistics, U Delaware
Newark, Delaware Fall 2006
Linguistics 101: Introduction to Linguistics

Teaching Assistant Concordia University
Montréal, Québec 2002–2003
Linguistics 201: Introduction to Linguistic Science

Teaching Assistant Concordia University
Montréal, Québec 2001–2002
Linguistics 201: Introduction to Linguistic Science

OTHER TEACHING

Business Communications Trainer Centre de Formation Caron
Montréal, Québec Spring 2008 - Present
Federal English Oral Interaction Exam Preparation, Levels B & C
Federal English Written Communication Exam Preparation, Levels B & C
Basic English, Levels 3,4,5
Intermediate English, Levels 7,8,10
Advanced English, Levels 12,15

English Teacher Yale Hagwon
Ulsan, South Korea Summer 2006
Beginners English, Grades 3,4,5
Intermediate English, Grades 2,3
TOEIC English Listening Exam Preparation

Spoken English Instructor ITA Training Program, U Delaware
Newark, Delaware Summer 2005
English Communication and Accent Reduction for International Teaching Assistants

Co-founder, Language Teacher Presage Institute
Lahore, Pakistan 2004–2005
Beginning English, Grades 0-3
Advanced English, Business English & Accent Reduction
Mini Courses: Spanish Through Music, The Human Language,
Canadian French for Advanced French Learners.

French Teacher
Lahore, Pakistan
First Year French, Niveau 4

Alliance Française
Summer 2004

O-Levels Teacher
Lahore, Pakistan
Creative Writing, Class 9
Creative Writing, Class 10

Salamat ICAS
Spring 2004

Minicourses and Other Teaching

“Bootstrapping Best Practices: 3 Open Source Repositories for Android Developers.” Android Users Group Montreal. November 2011.

“Testing using the Spock Behaviour Driven Development (BDD) Framework in Groovy for Java Developers.” Software Engineering and Computer Science Students Association (SCS) Workshop Series. Debugging assistant October 2011.

“Software Engineering Tools for Field Linguistics.” (Git, Wiki, Gate, Groovy) Concordia Linguistic Students Association (LSA) Workshop. April 2011.

Live coding & Git with Google Code demo. Hack night @ Android Users Group Montreal. September 2011.

“L^AT_EX for Linguists.” Concordia Linguistic Students Association (LSA) & Linguistics Association of Delaware (LAD) Workshops. Debugging assistant February 2010, March 2008; Presenter February 2007, April 2006, February 2003.

“Get yourself a website, you grad student! HTML for Linguists.” Linguistics Association of Delaware (LAD) Workshop. April 2007, February 2006.

“Scripting in Praat.” Concordia Linguistic Students Association (LSA) & Linguistics Association of Delaware (LAD) Workshops. March 2006, October 2002.

PUBLICATIONS

“The Phonological/Phonetic status of Productive Palatalization in Romanian.” (with L. Spinu) Proceedings of the Seoul International Conference on Linguistics, Seoul National University, Seoul, South Korea. July 2006.

“Modelling Decentralized Settlement Formations using Starlogo.” *A Journal of Explorations vol. 6*. University of Maine, Orono. 1997.

CONFERENCE PRESENTATIONS

“Aphasia Assessment on Android: recording voice, eye-gaze and touch for the BAT.” (with A. Marquis & A. Achim). Poster at Academy of Aphasia 49th Annual Meeting, Montréal, Québec. October 2011.

“Eliciting evolving information structure and audienceless vs. audience oriented prosodies: experimentation on Android tablets.” (with S. Kattoju). Poster at ETAP2 - Experimental and Theoretical Advances in Prosody, Montréal, Québec. September 2011.

“PDFtoAudioBook Android app” (Java, XML). Canadian University Software Engineering Conference (CUSEC) DemoCamp, Montréal, Québec. January 2011.

“Word features and word concatenation.” Sixth Interdisciplinary Graduate Student Research Symposium, McGill University, Montréal, Québec. March 2009.

“The Structure of Long Distance Agreement in Hindi/Urdu.” Invited Lecture in Advanced Syntax, Concordia University, Montréal, Québec. November 2007.

“The Phonological/Phonetic status of Productive Palatalization in Romanian.” (with L. Spinu). Presented at the Seoul International Conference on Linguistics, Seoul National University, Seoul, South Korea. July 2006.

Session Chair - North American Phonology Conference (NAPhC 1), Concordia University Montreal, Canada. April 2002.

CONFERENCE ORGANIZER

NASC *North American Syntax Conference Chief Organizer*
May 2-4 2003: Concordia University Montréal, Québec

NAPhC 1, 2 *North American Phonology Conference Assistant Organizer*
April 26-28 2002: “I-Phonology,” Concordia Montréal, Québec
April 28-30 2000: “Phonology-Syntax Connection,” Concordia Montréal, Québec

RESEARCH

Laboratory Technician, Concordia Psycholinguistics & Cognition Laboratory, Concordia University
Visual Word Form Recognition Study, Spring 2008

Research Assistant to Prof. Kendeou, Applied Cognitive Science Laboratory, McGill University
Discourse and Cognition Reading Study, 2007–2008

Research Assistant to Prof. Bruening, Linguistics & Cognitive Science, University of Delaware
Materials for the Investigation of Quantification in Passamaquoddy, Fall 2005

PROFESSIONAL SERVICE

University of Delaware Graduate Student Senator, 2006-2007

Concordia Classics, Modern Languages and Linguistics Curriculum Committee Student Representative, 2001-2003

Concordia Linguistics Student Association President, 2000-2003

Concordia Arts & Science Faculty Council Student Representative 2001-2002

Concordia Student Union Counselor, 2000-2001

TECHNICAL POSITIONS

Android Developer Self employed
Montréal, Québec September 2010 – Present

- Designed and implemented Android solutions for customers with a focus on offline text or audio data collection and sync to desktop.
- Programmed background services, content provider, SQLite database, activities (Java, XML).
- Simultaneously developed user interface so that runs on Android devices and in a WebApp (HTML5).
- APIs used (MediaRecorder, Camera, TextToSpeech, VoiceRecognizer).
- Used ScrumDo, BaseCamp, Google Code and GitHub for project management.
- Published apps to Android Market.

Linguist Idilia
Montréal, Québec Summer 2010

- Manually cleaned the ontology to add connections between concepts and Named Entities.
- Adapted existing Python scripts for KDE and OpenOffice macros to automate the process.
- Used Subversion to version control changes in the gold standard corpora.
- Used Trac to follow up comments on tasks and bugs.
- Used PostgreSQL to query ontology backend.
- Edited the Wiki to document processes and procedures.

Webserver Administrator
Newark, Delaware

Linguistics, U Delaware
Nov 2005 – Nov 2008

- Installed, upgraded and maintained 46 user Ubuntu Linux Server.
- Implemented a dynamic Content Management System (Joomla) using a MySQL database and PHP.
- Developed a content module using PHP specially designed for members of an academic department.
- Maintained and assembled computer hardware, managed network and printing.
- Installed and maintained Windows XP and Ubuntu Linux systems.

Linguist
Montréal, Québec

Nuance Communications
June 2003–April 2004

- Segmented Québec French and North American Spanish for Text-To-Speech engine (>400hours).
- Wrote Speech Filing System (SFS) tutorial for training new employees.
- Provided transcriptions for words new to the voice recognition dictionary and “cleaned” the existing transcriptions using regular expressions.
- Transcribed telephone service calls in Québec French for Voice Recognition Engine (>100hours).
- Wrote Perl scripts to extract info from transcription database.
- Created a web spider for data validation and proper noun harvesting.

Phonetics Lab Manager & Webserver Admin
Montréal, Québec

Concordia University
2000–2002

- Responsible for Windows & Mac network and printing.
- Recoded website to web standards, created webpages for faculty members.
- Maintained and assembled computer hardware.
- Installed various programs and security software (Redhat/Suse Linux, Mac 7,8, Windows 98)
- Provided computing assistance to students and professors.
- Responsible for ordering new furnishings and redesigning lab configuration for efficient space usage.

SKILLS

Fluent Languages: English (North American Standard), French (Québec Standard)

Languages in order of Linguistic Familiarity: FIELDWORK: Hindi/Urdu (Lahore), Punjabi (Lahore), Korean (Ulsan), Mongolian (Hohhot), Turkish (Istanbul), Tunisian Arabic (Tunis), Romanian (Bucharest), Malay (Kuala Lumpur, Kuching), Czech (Brno), Inuktitut (Iqaluit) STUDIED: French, Spanish, German, Russian, Ancient Greek, Tok Pisin, Sanskrit

Languages -rwx: L^AT_EX, Java, Javascript, Git, MySQL, HTML5

Languages -r-x: Praat, Bash, XML, R, Groovy, SVN, Python, Perl, PHP, C++

Operating systems: Android (3.2,2.3.3,2.2), Linux (Ubuntu,Red Hat 9/8), Windows (XP,NT,2000,98), Mac (OS 10.6,9,7)

Applications: Praat; SPSS; MatLab; Eclipse; Chrome; Adobe Acrobat Professional, Photoshop; Speech Filing System (SFS); Vim; Kate; TextPad; TeXnicCenter; Unix text utilities; Microsoft PowerPoint, Excel, Word; InterVideo; VirtualDub; SubRip; CronoSub

Specialized skills: programming/scripting and data mining; speech stream segmentation and transcription; statistic analysis using SPSS or R; acoustic analysis using Praat; digitalizing printed literature to create searchable, high quality PDFs; data entry and filing; project management; development of documentation and training materials; server applications; database design; networking; web design, maintenance & dynamic content; desktop and laptop hardware assembly and repair; minor reparation of circuitry and soldering; audio and video capturing/digitalizing/editing and subtitling

PROFESSIONAL DEVELOPMENT

Android NDK Development
Montreal, QC

Random Hacks of Kindness Hackathon
December 2012

We worked learned the Android NDK and OpenCV stack to integrate an image processing algorithm into an Android client for offline recognition of dark clusters on a beige background.
<https://github.com/AndroidImageProcessing/>

Offline Android Development
Montreal, QC

Montreal Open Data Hackathon
November 2012

We worked on getting offline maps and trajectory planning for smart phones. We focused on public transportation, public transportation + Bixie, and calculating bike directions using least hills, safest and fastest as parameters.
<https://github.com/OpenTripPlannerMontreal/>

EGG School
Brno, Czech Republic

Eastern European School of Generative Grammar
Summer 2007

Classes attended:

Theresa Biberauer (Cambridge)
Elena Herburger (Georgetown)

“Null subjects and the null-subject parameter”
“Negation and Negative Polarity”

Olaf Koenenman (Meertens)

“Issues in the semantics of conditionals”
“Syntactic doubling and the structure of chains”
“Verb movement as a structure-creating operation”

Maire Noonan (McGill)

“The properties of verb-initial languages”
“The structure of PP”

Uli Sauerland (ZAS)

“The Semantics of Embedded Clauses”

Hedde Zeijlstra (Amsterdam)

“The Meaning of Being Meaningless:
the how and why of uninterpretable features”

EGG School
Olomouc, Czech Republic

Eastern European School of Generative Grammar
Summer 2006

Classes attended:

Joe Emonds (Kobe Shoin)

“Maximally Distributing Morphology”

Martin Haiden (Lille)

“Argument structure and overt morphology”

Oystein Nilsen (Tromsø/Utrecht)

“Introduction to Syntax”

Glyne Piggott (McGill)

“The phonological interpretation of morphological structure”

Michal Starke (Tromsø)

“Nanosyntax - An overview with special reference to the interface”

EGG School
Cluj, Romania

Eastern European School of Generative Grammar
Summer 2004

Classes attended:

Alexandra Cornilescu (Bucharest)

“The Direct Object - Syntax and Information Structure”

“The AP as a DP constituent”

Luisa Marti (Leipzig) &

“Introduction to Semantics”

Orin Percus (San Raffaele)

“Covert Variables at LF”

Oystein Nilsen (Tromsø)

“The Case Filter and its semantics ”

“Conservative Shape Conservation”

Tobias Scheer (Nice)

“How the big guys (morphology, syntax, semantics)

talk to phonology, and what they tell her”

Michael Wagner (MIT)

“Introduction to Prosody and the Syntax/Phonology Interface”

“Deriving Prosody in Syntax”

EGG School
Lublin, Poland

Eastern European School of Generative Grammar
Summer 2003

Classes attended:

John Bailyn (SUNY)	“Case and Configuration in Slavic” “What, if anything, is the EPP?”
Hagit Borer (USC)	“The syntax of (referring) nominal expressions” “Aspect and Aktionsart”
Jonathan Kaye (Girona)	“Foundations of Phonological Theory”
Andrew Nevins (MIT)	“Ergativity: splitting hairs” “Precedence for syntacticians, dominance for phonologists”
Oystein Nilsen (Utrecht)	“Grammar Logic”
Gillian Ramchand (Oxford)	“Erasing the Syntax/Semantics Interface: Evidence from Scottish Gaelic”

Conferences Attended

<i>NELS 33, 34, 35, 36, 42</i>	<i>North East Linguistic Society</i> Nov 11-13 2011: University of Toronto, Ontario Oct 28-30 2005: UMASS Amherst, Massachusetts Oct. 22-24 2004: UCONN Storrs, Connecticut Nov. 7-9 2003: SUNY Stonybrook, New York Nov. 8-10 2002: MIT Boston, Massachusetts
<i>AofA 49</i>	<i>Academy of Aphasia Annual Meeting</i> Oct. 16-18 2011: Montréal Québec
<i>ETAP 1,2</i>	<i>Experimental and Theoretical Advances in Prosody</i> September 23-25 2011: McGill University, Montréal Québec April 11-13 2008: Cornell University Ithaca, New York
<i>CUSEC 2010, 2011, 2012</i>	<i>Canadian University Software Engineering Conference</i> January 19-21 2012: Montréal Québec January 13-15 2011: Montréal Québec January 21-23 2010: Montréal Québec
<i>IGSRS 6</i>	<i>Interdisciplinary Graduate Student Research Symposium</i> March 26-27 2009: McGill University, Montréal Québec
<i>AFLA XIV</i>	<i>Austronesian Formal Linguistics Association</i> May 4-6 2007: McGill University, Montréal Québec
<i>GURT 2007</i>	<i>Georgetown University Roundtable on Linguistics: Little words</i> March 8-11: Georgetown University, Washington DC
<i>SICOL 2006</i>	<i>Seoul International Conference on Linguistics</i> July 24-26: Seoul National University, Seoul, South Korea
<i>LSRL 36</i>	<i>Linguistic Symposium on Romance Languages</i> March 31-April 2 2006: Rutgers, New Brunswick, New Jersey
<i>PLC 30</i>	<i>Penn Linguistics Colloquium</i> February 24-26 2006: University of Pennsylvania Philadelphia, Pennsylvania
<i>HULC 2</i>	<i>Harvard Undergrad Linguistics Colloquium</i> Jan. 17-18 2004: Harvard Boston, Massachusetts
<i>LSA 78</i>	<i>Linguistics Society of America</i> Jan. 8-11 2004: Boston, Massachusetts
<i>NASC</i>	<i>North American Syntax Conference</i> May 2-4 2003: Concordia University Montréal, Québec
<i>NAPhC 1, 2</i>	<i>North American Phonology Conference</i> April 26-28 2002: “I-Phonology,” Concordia Montréal, Québec April 28-30 2000: “Phonology-Syntax Connection,” Concordia Montréal, Québec

Notable Lectures Attended

<i>Roberto Zamparelli</i>	
March 6, 2009	“Defaults, Coordination and Clausal Subjects”
<i>Juan Uriagereka</i>	
September 29, 2006	“Dynamic Islands”
<i>Luigi Rizzi</i>	
March 28, 2006	“Criterial Freezing, EPP, and ECP”
March 27, 2006	“On the Study of Language as a Cognitive Capacity: Results and Perspectives”
<i>Norbert Hornstein</i>	
November 11 2005	“Labels and Minimality”
<i>Noam Chomsky</i>	
January 9 2004	“Three factors in language design: Background & prospects”
<i>Morris Halle</i>	
January 9 2004	“Moving On”
April 27 2000	“On the nature of stress and what it tells us about phonology”
<i>Sam Epstein</i>	
May 1 2003	“Intermodular deduction–What is it? and How can it be implemented?”
<i>Alec Marantz</i>	
Jan 31, 2003	“Similarity vs. Identity: A Neurolinguistic Approach to Lexical Relatedness”
Jan 30, 2003	“Pulling Words Up by the Roots”
April 25 2002	“We don’t memorize words”
<i>Ken Hale</i>	
Sept 21 2000	“The Jelinek-Willie Pronominal Argument Theory of Navajo Person-Number Morphology”