

# Sean Robertson

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## EDUCATION

2016-pres	PhD Computer Science, University of Toronto, Canada
2013-2015	MSc Computer Science, University of Toronto, Canada
2008-2013	Bachelor of Computer Science, Minor in Psychology, Hons., Co-op, University of Waterloo, Canada

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## HONOURS

2018-2019	Vector Institute Postgraduate Affiliation, Vector Institute
2017-2020	Canadian Graduate Scholarship - Doctoral (CGS-D), Natural Sciences and Engineering Research Council of Canada (NSERC)
2016	Ontario Graduate Scholarship, Government of Ontario and the University of Toronto
2014-2015	Canadian Graduate Scholarship - Master's (CGS-M), Natural Sciences and Engineering Research Council of Canada (NSERC)
2013-2015	Wolfond Scholarship Program for Wireless Information Technology, University of Toronto
2011-2012	Undergraduate Student Research Award, NSERC

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## RESEARCH INTERESTS AND EXPERIENCE

Current	Topics: Speech recognition; deep learning; multi-scale speech processing; digital signal processing; reinforcement learning.  Courses taken: Spoken Language Processing (A+); Information Visualization (A+); Learning Discrete Latent Structure (A+); Numerical Methods for Optimization Problems (A+).
Master's	Topics: Computer-assisted pronunciation training; phonology; pedagogy; machine learning; experimental design; experimental statistics; and mobile human-computer interaction.  Courses taken: Fundamentals of Cryptography (A+); Natural Language Computing (A+); Human-Computer Interaction (A+); and Computational Linguistics (A+).

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Undergraduate      Research assistantships topics: probabilistic modeling; basic (“maker”) circuit board design; digital signal processing; and concurrent database scaling.

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## REFEREED FULL PAPERS AND CONFERENCE PROCEEDINGS

- **Robertson, S.**, Penn, G., Wang, Y. (2019). *Improving Speech Recognition with Drop-in Replacements for f-bank Features*. Conference on Statistical Language And Speech Processing (SLSP). 210-222
  - **Robertson, S.**, Munteanu, C., Penn, G. (2018). *Designing pronunciation learning tools: the case for interactivity against over-engineering*. Conference on Human Factors in Computing Systems (CHI). 356:1-356:13.
  - **Robertson, S.**, Munteanu, C., Penn, G. (2016). *Pronunciation error detection for new language learners*. Interspeech. 2691-2695.
  - Rudzicz, F., Frydenlund, A., **Robertson, S.**, Thaine, P. (2016). *Acoustic-articulatory relationships and inversion in sum-product and deep-belief networks*. Speech Communication, 79, 61 - 73.
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## WORKSHOP PROCEEDINGS

- **Robertson, S.**, Munteanu, C., Penn, G. (2016). *Language learning dialogue systems: lessons in proving yourself*. Designing Speech and multimodal interactions for mobile, wearable, and pervasive applications, CHI 2016.
  - Minhas, U. F., Liu, R., Aboulmaga, A., Salem, K., Ng, J., **Robertson, S.** (2012). *Elastic scale-out for partition-based database systems*. IEEE 28th International Conference on Data Engineering Workshops (ICDEW). 281-288.
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## TEACHING EXPERIENCE

2014,2016-2019      Computational Linguistics - Teaching Assistant  
                                  Pre- and post-assignment tutorials; assignment revisions; marking; occasional stand-in teaching.

2014,2017              Introduction to Computer Science - Teaching Assistant  
                                  Overseeing first-year labs.

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## PROFESSIONAL EXPERIENCE

2014-2018              Contracted work for Speax Inc.  
                                  Speech recognition software development for iOS; consultation. Appeared on CBC's The National.

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## SERVICE

- Review for Journals: *Speech Communication* (2018,2019)
- Review for Conferences: *EMNLP* (2019), *CHI - LBW* (2018)

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## REFERENCES

- Prof. Gerald Penn (current and past supervisor), Department of Computer Science, University of Toronto. gpenn@cs.toronto.edu
- Prof. Cosmin Munteanu (past supervisor), Department of Computer Science, University of Toronto. cosmin@taglab.ca