Sean Robertson

Bahen Centre of Computer Science,
40 St George St, Rm 4242,
Toronto, ON, M5S 2E4

+1 (647) 701 6206
sdrobert@cs.toronto.edu
www.cs.toronto.edu/~sdrobert

Education

2016-pres	PhD Computer Science (candidate), 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

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

Research Interests and Experience

Current	Topics: Speech recognition; deep learning; multi-scale speech processing; digital signal processing; reinforcement learning; variational inference. Courses taken: Spoken Language Processing (A+); Information Visualization (A+); Learning Discrete Latent Structure (A+); and 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+).

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

Refereed Full Papers and Conference Proceedings

- **Robertson, S.,** Munteanu, C., Penn, G. (2020). *FAB: The French Absolute Beginner Corpus for pronunciation Training.* Language Resources and Evaluation Conference (LREC). 6613-6620
- **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.

Workshop Proceedings and Non-Refereed Papers

- **Robertson, S.,** Penn, G., Wang, Y. (2019) Exploring spectro-temporal features in end-to-end convolutional neural networks. arXiv preprint arXiv:1901.00072.
- **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., Aboulnaga, 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.

Teaching Experience

2020	Natural Language Computing - Co-instructor Co-taught alongside Frank Rudzicz. In addition to lectures and managing TAs, rewrote whole assignment and some of the lecture content.
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.

Professional Experience

2020	AI engineer for Sun Life Financial.
2014-2018	Contracted work for Speax Inc. Speech recognition software development for iOS; consultation. Appeared on CBC's The National.

Service

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

References

- Prof. Gerald Penn (current and past supervisor), Department of Computer Science, University of Toronto. gpenn@cs.toronto.edu
- Prof. Frank Rudzicz (committee member and CSC401 co-instructor), Department of Computer Science, University of Toronto. frank@spoclab.com
- Prof. Cosmin Munteanu (past supervisor), Department of Computer Science, University of Toronto. cosmin@taglab.ca