Shamil Chollampatt

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Contact Information

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Research Interests

General Areas: Deep learning and natural language processing.
Specific Topics: Sequence-to-sequence models for text generation applications and machine translation, educational NLP, low-resource and unsupervised NLP.

Education

National University of Singapore (NUS) — *Singapore*
Doctor of Philosophy (Ph.D.) — Aug 2014 – Sep 2018
Thesis Title: Translation Models for Grammatical Error Correction (*defended*: Jan 2019)
Advisor: Prof. Ng Hwee Tou
GPA: 4.3/5

National Institute of Technology (NIT) Calicut — *Calicut, India*
Bachelor of Technology (B. Tech) — Jul 2009 – Apr 2013
Computer Science and Engineering
GPA: 9/10 (Major GPA: 9.4/10)

Work Experience

Researcher — Aug 2018 – Present
Department of Computer Science, School of Computing,
National University of Singapore
– Projects:
- Cross-lingual information extraction and question answering
- Grammatical error correction

Graduate Assistant (Research) — Jan 2015 – May 2015
National University of Singapore
– Advised and collaborated with an undergraduate student on a research project on "contextual non-word spelling error correction".

Software Engineer — Jun 2013 – Jun 2014
Business Intelligence Division, Server Technologies Group
Oracle, Bangalore, India
– Worked on a real-time decision making product suite that help businesses make intelligent real-time decisions based on predictive modelling using previous consumer data.

Teaching Experience

National University of Singapore — *Singapore*

Graduate Assistant (Teaching) — Aug 2016 - Dec 2016
CS1020 - Data Structures and Algorithms
Module Coordinator: Prof. Tan Sun Teck

Graduate Assistant (Teaching) — Aug 2015 - Dec 2015
CS1020E - Data Structures and Algorithms
Module Coordinator: Prof. Tan Sun Teck

Graduate Assistant (Teaching) — Aug 2014 - Dec 2014
CS1020 - Data Structures and Algorithms
Module Coordinator: Prof. Tan Sun Teck

Publications

- **Shamil Chollampatt** and Hwee Tou Ng. 2018. Neural quality estimation of grammatical error correction. In *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP 2018)*, Brussels, Belgium.
- **Shamil Chollampatt** and Hwee Tou Ng. 2018. A reassessment of reference-based grammatical error correction metics. In *Proceedings of the 27th International Conference on Computational Linguistics (COLING 2018)*, Santa Fe, New Mexico, USA.
- **Shamil Chollampatt** and Hwee Tou Ng. 2018. A multilayer convolutional encoder-decoder neural network for grammatical error correction. In *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI 2018)*, New Orleans, Louisiana, USA.
- **Shamil Chollampatt** and Hwee Tou Ng. 2017. Connecting the dots: Towards human-level grammatical error correction. In *Proceedings of the 12th Workshop on Innovative Use of NLP for Building Educational Applications (BEA 2017)*, Copenhagen, Denmark.
- **Shamil Chollampatt**, Duc Tam Hoang, Hwee Tou Ng. 2016. Adapting grammatical error correction based on the native language of writers with neural network joint models. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing (EMNLP 2016)*, Austin, Texas, USA.
- **Shamil Chollampatt**, Kaveh Taghipour, Hwee Tou Ng. 2016. Neural network translation models for grammatical error correction. In *Proceedings of the 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)*, New York, USA.
- Duc Tam Hoang, **Shamil Chollampatt**, Hwee Tou Ng. 2016. Exploiting n-best hypotheses to improve an SMT approach to grammatical error correction. In *Proceedings of the 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)*, New York, USA.

Other Academic Projects

Automated Essay Scoring using Discourse Features Aug 2015 – Dec 2015

- *Supervisor*: Diane J. Litman, University of Pittsburgh, USA
- Incorporated discourse-level features from a discourse parser and coherence model features to improve automated essay scoring.
- Won the best project award in the NUS School of Computing project showcase, STePS 2015.

Chatbot for Grammar Tutoring Aug 2014 – Dec 2014

- *Supervisor*: Arne Jönsson, Linköping University, Sweden
- Built a dialogue system with a grammar checker backend that will provide feedback to users regarding their language use through interactive dialogues.

Recommender for Music Tracks Dec 2011

- *Supervisors*: Bhiksha Raj and Rita Singh, Carnegie Mellon University, Pittsburgh, USA
- Implemented a personalized song recommendation system. The audio signals of tracks were modeled using gaussian mixture models (GMM) and an SVM classifiers were used for recommendation learned via active learning through user feedback.

Experimental Operating System
http://xosnitc.github.com Jan 2012 – Feb 2013

- *Supervisor*: Murali Krishnan, National Institute of Technology Calicut, India
- Designed, implemented, and documented an instructional toy operating system. It was deployed as part of undergraduate coursework at National Institute of Technology (NIT) Calicut and Indian Institute of Technology (IIT) Palakkad.

Mentoring

- Anja Reusch, Technische Universität Dresden (Internship Project) 2018
- Wang Weiqi, National University of Singapore (Graduate Student Research Project) 2018
- Cristina Panait, University Politehnica of Bucharest (Internship Project) 2016
- Li Yik Jiun, National University of Singapore (Undergraduate Final Year Project) 2015

Awards and Achievements

- **Dean's Graduate Research Excellence Award**, School of Computing, NUS, 2018.
  Awarded to select senior computing PhD candidates who "made significant research achievements during their PhD study" and "produced strong evidence of sustained research achievement".
- **Research Achievement Award**, School of Computing, NUS, 2016.
  Awarded to PhD students "who have achieved outstanding research performance" in a year.
- **NUS Graduate School (NGS) Scholarship**, 2014–2018.
  NGS scholarship is a prestigious scholarship "awarded to talented students with an aptitude for innovative, high calibre PhD research".
- All-India Rank 29 (out of 155,190 candidates, i.e., 99.98$^{\text{th}}$ percentile) in the Graduate Aptitude Test for Engineering (GATE) 2014 for Computer Science and Engineering in India.

Invited Talks

Correcting Language Errors using Machine Translation Techniques
– Workshop on Technology Enhanced Learning, 9th Global Wordnet Conference (GWC 2018), Singapore. January, 2018.

Correcting Language Errors using Machine Translation Techniques
– Research Talk, NUS School of Computing, NUS. March 2018.

Service

Conferences

- Program Committee Member, NAACL 2019
- Program Committee Member, AAAI 2019
- Program Committee Member, Workshop on Innovative Use of NLP for Building Educational Applications (BEA), 2018
- Reviewer, ACL 2018
- Program Committee Member, NAACL 2018
- Program Committee Member, AAAI 2018
- Program Committee Member, ACL 2017
- Program Committee Member, IJCNLP 2017
- Program Committee Member, Workshop on Innovative Use of NLP for Building Educational Applications (BEA), 2017

Journals

- Reviewer, Computational Linguistics Journal
- Reviewer, Journal of Natural Language Engineering.

Affiliations / Responsibilities Held

- Member, SIGEDU (Special Interest Group on Building Educational Applications), 2018-2019
- Member, Association of Artificial Intelligence (AAAI), 2018.
- Member, Association of Computational Linguistics (ACL), 2016-2018.
- Vice Chair, ACM Student Chapter, National Institute of Technology Calicut, 2013.
- Lead Organizer, FOSS (Free and Open Source Software) Meet 2010, 2011 and 2013 at National Institute of Technology Calicut.

Skills

- *Programming*: Python, C/C++, Bash, Java, MATLAB, PHP, HTML/CSS.
- *Libraries*: PyTorch, Keras, Theano, scikit-learn, LIBSVM, SVM^{light}
- *Toolkits*: Moses, Fairseq, OpenNLP, Weka
- *Tools*: Git, LaTeX