






PERSONAL INFORMATION **SHAMMUR ABSAR CHOWDHURY**

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Gender Female | Date of birth 20 August 1989 | Nationality Bangladeshi

ACADEMIC EXPERTISE AND RESEARCH INTEREST

Artificial Intelligence – Speech Signal Processing, Atypical Interaction, Non-Verbal Communication, Human-Machine Interaction, Applied Deep/Machine Learning and Natural Language Processing

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Member, **IEEE**, since 2009; Member, **ACM**, since 2009; Member, **ISCA** (International Speech Communication Association) since 2013; Member, **ACL** (Association for Computational Linguistics) since 2018.

EDUCATION

November 2012 – April 2017 **PhD** in Information and Communication Technology

University of Trento, Italy
Thesis Title: "[Computational Modeling of Turn-Taking Dynamics in Spoken Conversations](#)".
Supervisor: Prof. Giuseppe Riccardi, University of Trento, Italy

January 2007 – December 2010 **Bachelor of Science in Electronics and Communication Engineering**
with 2nd major in **Bachelor of Science in Computer Science**

BRAC University, Bangladesh
Result: CGPA: 3.97/4.0 (**Gold medalist and Valedictorian** for getting highest CGPA among all University Graduates, 2011).
Thesis Title: "[Implementation of Speech Recognition System in Bangla](#)".
Supervisor: Prof. Mumit Khan, BRAC University, Bangladesh

RESEARCH WORK EXPERIENCE

September 2017 – Present **Postdoctoral Researcher**

Center for Mind/Brain Sciences, University of Trento, Trento, Italy

- Deep Neural Network models for grammatical structure and acceptability.
- Language modeling using recurrent neural network, with different encodings and using multilingual data.

November 2012 – April 2017 **PhD Researcher**

Signals and Interactive Systems Lab, SIS Lab, University of Trento, Trento, Italy

- Modeling turn-taking behavior and discourse of overlap and silence in conversations.
- Modeling automatic conversation flow facilitator and information profiler for call-center data analytics system.
- Extraction of non-verbal features for para-semantic prediction
<http://www.sensei-conversation.eu>.
- Cross-Language Annotation porting using crowdsourcing platform
<http://www.portdial.eu>.

March 2012 – October 2012 **Research Assistant**

SIS Lab, University of Trento, Trento, Italy

Automatic Speech Recognition (ASR) for Italian language using LUNA spoken dialog corpus.

October 2010 – February 2012 **Senior Research Assistant**

Center for Research on Bangla Language Processing (CRBLP), Department of Computer Science and Engineering

BRAC University, Dhaka Bangladesh

- Successfully developed a new voice for existing Bangla Text to Speech – Katha;
- Developed a newspaper speech corpus
<https://sourceforge.net/projects/blp>.

TEACHING EXPERIENCE

January 2011 – February 2012 **Lecturer**

Department of Computer Science and Engineering
BRAC University, Dhaka Bangladesh

Courses Taken: Introduction to Computer Science, Programming Language I and II, Numerical Methods, Electronic Device II.

October 2008 – August 2010 **Teaching Assistant**

Department of Computer Science and Engineering
BRAC University, Dhaka Bangladesh

Assisted Courses: Programming Language I. Programming Language II.

RECENT RESEARCH/PROFESSIONAL ACTIVITIES

Scientific Articles reviewer (selected)

Proc. of International Conference on Acoustics, Speech and Signal Processing (ICASSP)

International Speech Communication Association (INTERSPEECH)

International Conference on Computational Linguistics (COLING)

Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)

Invited Participant

Working Meeting on the revision of ISO 24617-2 standard for dialogue act annotation, Tilburg University, Netherlands, April 5-6, 2018.

Grant Reviewer

Research Development Fund project under review by Xi'an Jiaotong Liverpool University, XJTLU, China, 2018.

SELECTED PUBLICATIONS

2019

[1] Shammur Absar Chowdhury, Evgeny A Stepanov, Morena Danieli, and Giuseppe Riccardi. Automatic classification of speech overlaps: Feature representation and algorithms. *Computer Speech & Language*, 55:145–167, 2019

2018

[2] Shammur Absar Chowdhury, Firoj Alam, and Naira Khan. Towards bangla named entity recognition. In *Proc. of 21st International Conference on Computer and Information Technology (ICCIT) (accepted)*. IEEE, 2018

[3] Evgeny Stepanov, Stephane Lathuiliere, Shammur Absar Chowdhury, Arindam Ghosh, Radu-Laurentiu Vieriu, Nicu Sebe, and Giuseppe Riccardi. Depression severity estimation from multiple modalities. In *20th International Conference on e-Health Networking, Applications and Services (Healthcom)*, IEEE, 2018

[4] Shammur Absar Chowdhury and Roberto Zamparelli. Rnn simulations of grammaticality judgments on long-distance dependencies. In *Proceedings of the 27th International Conference on Computational Linguistics*, pages 133–144, 2018

[5] Evgeny A. Stepanov, Shammur Absar Chowdhury, Ali Orkan Bayer, Arindam Ghosh, Ioannis Klasinas, Marcos Calvo, Emilio Sanchis, and Giuseppe Riccardi. Cross-language transfer of semantic annotation via targeted crowdsourcing: Task design and evaluation. *Language Resources and Evaluation Journal*, 2018

2017

[6] Shammur Absar Chowdhury, Evgeny Stepanov, Morena Danieli, and Giuseppe Riccardi. Functions of silences towards information flow in spoken conversation. In *Proceedings of the Workshop on Speech-Centric Natural Language Processing*, pages 1–9, Copenhagen, Denmark, 2017

[7] Shammur Absar Chowdhury, Firoj Alam, Naira Khan, and Sheak RH Noori. Bangla grapheme to phoneme conversion using conditional random fields. In *Proc. of 20th International Conference on Computer and Information Technology (ICCIT)*, pages 1–6. IEEE, 2017

[8] Shammur Absar Chowdhury and Giuseppe Riccardi. A deep learning approach to modeling competitiveness in spoken conversation. In *Proc. of International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. IEEE, 2017

2016

[9] Firoj Alam, Shammur Absar Chowdhury, Morena Danieli, and Giuseppe Riccardi. How interlocutors coordinate with each other within emotional segments? In *Proc. of COLING: International Conference on Computational Linguistics*, 2016

[10] Firoj Alam, Shammur Absar Chowdhury, and Sheak Rashed Haider Noori. Bidirectional lstms—crfs networks for bangla pos tagging. In *Proc. of 19th International Conference on Computer and Information Technology (ICCIT)*, pages 377–382. IEEE, 2016

[11] Shammur Absar Chowdhury, Evgeny Stepanov, and Giuseppe Riccardi. Predicting user satisfaction from turn-taking in spoken conversations. In *Proc. of 17th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, 2016

[12] Shammur Absar Chowdhury, Evgeny A. Stepanov, and Giuseppe Riccardi. Transfer of corpus-specific dialogue act annotation to iso standard: Is it worth it ? In *Proc. of LREC*, 2016

[13] Giuseppe Riccardi, Evgeny A Stepanov, and Shammur Absar Chowdhury. Discourse connective detection in spoken conversations. In *Proc. of International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 6095–6099. IEEE, 2016

2015

[14] E Stepanov, Benoit Favre, Firoj Alam, S Chowdhury, Karan Singla, Jeremy Trione, Frederic Béchet, and Giuseppe Riccardi. Automatic summarization of call-center conversations. In *Proc. of the IEEE Automatic Speech Recognition and Understanding Workshop (ASRU 2015)*, 2015

[15] Shammur Absar Chowdhury, Morena Danieli, and Giuseppe Riccardi. The role of speakers and context in classifying competition in overlapping speech. In *Proc. of 16th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, 2015

[16] Shammur Absar Chowdhury, Marcos Calvo, Arindam Ghosh, Evgeny A. Stepanov, Ali Orkan Bayer, Giuseppe Riccardi, Fernando García, and Emilio Sanchis. Selection and aggregation techniques for crowdsourced semantic annotation task. In *Proc. of the 16th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, pages 2779–2783, Dresden, Germany, September 2015

[17] Shammur Absar Chowdhury, Morena Danieli, and Giuseppe Riccardi. Annotating and categorizing competition in overlap speech. In *Proc. of International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. IEEE, 2015

2014

[18] Shammur A. Chowdhury, Giuseppe Riccardi, and Firoj Alam. Unsupervised recognition and clustering of speech overlaps in spoken conversations. In *Proc. of Workshop on Speech, Language and Audio in Multimedia*, 2014

[19] Shammur Absar Chowdhury, Arindam Ghosh, Evgeny A. Stepanov, Ali Orkan Bayer, Giuseppe Riccardi, and Ioannis Klasinas. Cross-Language Transfer of Semantic Annotation via Targeted Crowdsourcing. In *Proc. of 15th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, Singapore, September 2014

2013

[20] Giuseppe Riccardi, Arindam Ghosh, Shammur Absar Chowdhury, and Ali Orkan Bayer. Motivational Feedback in Crowdsourcing: A Case Study in Speech Transcription. In *Proc. of the 14th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, pages 1111–1115, Lyon, France, August 2013

2011

[21] S. M. Murtoza Habib, Firoj Alam, Rabia Sultana, Shammur Absar Chowdhury, and Munit Khan. Phonetically balanced bangla speech corpus. In *Proc. of Conference on Human Language Technology for Development (HLTD)*, Egypt, 2011

SELECTED PROJECTS

- **TREiL**: Technologies for Research and Education in Linguistics –Linguistic between Theory and Machine Learning and Distributional Semantics: Going Multilingual (Italian Government funded project).
<https://github.com/LiCo-TREiL/Computational-Ungrammaticality>.
- **SENSEI**: Making Sense of Human - Human Conversation (EU funded project)
<http://www.sensei-conversation.eu>.
- **PortDial**: Language Resources for Portable Multilingual Spoken Dialogue Systems (EU funded project),
<http://www.portdial.eu>.
- **Speech Recognition System**: Improving and implementing speech recognition system for Italian language.
- **Voice Creation for Bangla Text To Speech**: Designing a voice for existing Bangla TTS system.
- **Designing Bangla Speech Corpus**: Developed a speech corpus for both TTS and ASR.

SELECTED PPOFESSIONAL DEVELOPMENT (SUMMER SCHOOL/WORKSHOP)

- “Neural Approaches to Conversational AI” - Tutorial, ACL Melbourne, Australia 2018.
- Interspeech Conference Tutorial, Lyon, France 2013.
- International Summer School in Language and Speech Technologies (SSLST 2012)), Taragona Spain, (July-2012 to Aug-2012).
- Workshop on Teaching and Learning, Organized by Teaching Learning Center (TLC), BRAC University - 2011.
- Professional Skills Development Program (PSDP), Organized by Career Services Office, BRAC University - 2010.

AWARDS

- NVIDIA Grant to support research on *RNN-based Artificial Grammaticality to Probe Language Universals*, 2018.
- ISCA Grant for Interspeech 2014
- University Grant for doctoral program, cycle-28, University of Trento
- Education Study Grant - DD342, for internship on March 2012 to October 2012.
- Achieved Chancellor’s Gold Medal and also became Valedictorian for year 2010 (BRAC University 6th Convocation) for highest CGPA among all University Graduates.
- Achieved Vice-Chancellor’s Gold Medal for year 2010 (BRAC University 6th Convocation) for highest CGPA from Electronic and Communication Engineering Department
- Achieved a place in Vice-Chancellor’s List in Spring 2008, Summer 2008, Fall 2008, Spring 2009, Summer 2009, Fall 2009, Spring and Summer 2010.
- Achieved the Vice-Chancellor’s Special Recognition Award for high standard of discipline and achievement, during Residential Semester, Summer 2007.
- Have achieved performance-based scholarship throughout 4-years of Undergraduate.

TECHNICAL SKILLS

Selected Machine Learning/NLP/Speech toolkits: PyTorch, Keras, Tensorflow, Sphinx, Kaldi, Festival, Stanford NLP, Weka, openSMILE, NLTK, HTK

Primary Languages: Java, Python, R

PERSONAL SKILLS

Mother tongue Bangla

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C1
Italian	A1	A2	A1	A1	A1

Levels: A1/A2: Basic user – B1/B2: Independent user – C1/C2: Proficient user
[Common European Framework of Reference \(CEF\) level](#)

ADDITIONAL INFORMATION

Reference Will be available upon request.