

MD RUHUL AMIN

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EDUCATION

PHD IN COMPUTER SCIENCE

Stony Brook University, NY, USA

Expected Graduation: May 2019

Advisor: Professor Steven Skiena

- Research Area: Deep Learning, Bioinformatics, Data Science, Natural Language Processing
- PhD Thesis: Homology Based Sequence Alignment and Annotation Algorithms

MASTER OF SCIENCE IN COMPUTER SCIENCE

Stony Brook University, NY, USA

Aug 2013 - Dec 2015

CGPA: 3.87/4.00

BSc (ENGG) IN COMPUTER SCIENCE & ENGG

Shahjalal University of Science and Technology (SUST), Bangladesh

Apr 2002 - May 2007

CGPA: 3.96/4.00

EXPERIENCE

RESEARCH SCIENTIST INTERN

Amazon AI, NY

Summer' 18 and Fall' 17

Manager: Dr. Baris Coskun

- CADENCE: Conditional Anomaly Detection for Events using Noise Contrastive Estimation
- Modeling User Behavior using the CloudTrail Traces in the AWS Environment

RESEARCH PROFESSOR

Shahjalal University of Science and Technology

Jan 2016 - May 2016

Advisor: Prof. M Zafar Iqbal

- Bengali Word Embeddings and NLP Applications

RESEARCH ASSISTANT

Lauffer Center for Physical and Quantitative Biology, SBU, NY

May 2015 - Aug 2015

Advisor: Prof. Thomas MacCarthy

- SHMPrep: Efficient Preprocessing and Error Correction of Paired-end Immunoglobulin Sequence

RESEARCH ASSISTANT

Simons Center for Quantitative Biology, CSHL, NY

May 2014 - Aug 2014

Advisor: Prof. Michael Schatz

- NanoBLASter: Fast Alignment Algorithms for Long and Noisy Oxford Nanopore Reads

ASSISTANT PROFESSOR

Computer Science & Engg, Shahjalal Uni of Science and Tech, Bangladesh

Jul 2009 - Jul 2013

- Received 3 Government grants as co-investigator with Professor M. Zafar Iqbal (Total Grant: \$405,000)
- Coordinated the R&D of Center for Research, Testing and Consultancy of CSE Department

TEAM LEADER (SOFTWARE DEVELOPMENT)

iSearch Team, AfriGIS (Pty) Ltd

May 2007 - Jun 2009

Manager: Reffat Zaman

- Team Leader of Location Based Information Retrieval System (live at <http://maps.afrigis.co.za>)

PUBLICATIONS

- **Ruhul Amin**, Pranav Garg, Baris Coskun. "CADENCE: Conditional Anomaly Detection for Events Using Noise-Contrastive Estimation." (Submitted to IEEE Symposium on Security and Privacy, 2018.)
- Jason Jones, **Ruhul Amin**, Jessica Kim, Prof. Steven Skiena. "Stereotypical Gender Associations in Language Have Decreased Over Time." (Submitted to American Sociological Review, 2018.)
- **Ruhul Amin**, Alisa Yurovsky, Steven Skiena. "DeepAnnotator: Genome Annotation with Deep Learning." 9th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics, 2018.
- **Ruhul Amin**, Alisa Yurovsky, Yuping Chen, Steven Skiena, Bruce Futcher. "Re-annotation of 12,495 prokaryotic 16S rRNA 3' ends and analysis of Shine-Dalgarno and anti-Shine-Dalgarno sequences." PloS one, Volume 13(8), 2018.
- Alisa Yurovsky, **Ruhul Amin**, Yuping Chen, Steven Skiena, Bruce Futcher. "Prokaryotic coding regions have little if any specific depletion of Shine-Dalgarno motifs." PloS one, Volume 13(8), 2018.
- **Ruhul Amin**, Steven Skiena, Michael Schatz. "NanoBLASter: Fast Alignment and Characterization of Oxford Nanopore Single Molecule Sequence Reads." 6th International Conference on Computational Advances in Bio and medical Sciences, 2016.
- Adnan Ahmad, **Ruhul Amin**. "Bengali Word Embeddings and it's Application in Solving Document Categorization Problem." 19th International Conference on Computer and Information Technology, IEEE, 2016.

- Arzuba Akter, MM Islam, SI Mondal, Zabed Mahmud, NA Jewel, Sabiha Ferdous, **Ruhul Amin**, MM Rahman. "Computational identification of miRNA and targets from expressed sequence tags of coffee." ELSEVIER Saudi Journal of Biological Sciences, Volume 21(1), 2014.
- ME Rahman, R Islam, S Islam, SI Mondal, **Ruhul Amin**. "MiRANN: A Reliable Approach for Improved Classification of Precursor MicroRNA using ANN." Elsevier Genomics, Volume 99(4), 2012.
- **Ruhul Amin**, AM Samir, M Chakraborty, MM Rahman. "An Efficient Unicode based Sorting Algorithm for Bengali Words." International Journal of Computer Applications, Volume 24(7), 2011.

POSTERS

- **Ruhul Amin**, Davide Bagnara, Thomas MacCarthy. "Ultra-Fast Identification of V(D)J Segments using Deep Learning." Presented in the Meeting of B Cells: Mechanisms in Immunity and Autoimmunity (E4), 2018.
- **Ruhul Amin**, Jeewoen Shin, Sergio Roa, Jeffery Chen, Anne Geradon, Stephen Meier, Tom MacCarthy. "SHM-Prep: A Fast and User-Friendly Program for Preprocessing Paired-end Immunoglobulin Sequence from Illumina Platforms." Presented in the Meeting of B Cells and T Follicular Helper Cells: Controlling Long-Lived Immunity (D2), 2017.
- Noushad Sojib, Saiful Islam, MH Rupok, Sajid Hasan, **Ruhul Amin**, MZ Iqbal "Design and Development of the Social Humanoid Robot named Ribo." Presented in the IEEE R10 Humanitarian Technology Conference, 2017.
- Alisa Yurovsky, **Ruhul Amin**, Steven Skiena. "Word Embeddings for Genome Annotation with Deep Learning." Presented in the 13th International Conference & Expo on Emerging Technologies for a Smarter World, 2017.
- **Ruhul Amin**, Steven Skiena, Michael Schatz. "NanoBLASter: Fast Alignment and Characterization of Oxford Nanopore Single Molecule Sequence Reads." Presented in the 13th International Conference & Expo on Emerging Technologies for a Smarter World, 2015.

AWARDS

- BASIS National ICT Award 2018 from Govt of Bangladesh for "Pipilika: Bengali Text Search Engine."
- Best Poster Award at CEWIT 2017 for "Word Embeddings for Genome Annotation with Deep Learning."
- Best Poster Award at IEEE R10 HTC 2017 for "Ribo, a Social Humanoid Robot."
- Best Poster Award at CEWIT 2015 for "Long Nanopore Reads Alignment using NanoBLASter Algorithms."
- CS Department Chair Fellowship 2013 from SBU CS department for Excellence in Computer Science.
- Prime Minister's Award 2012 for "Screen Reading Software Mongol Dip" for the Visually Impaired People.
- Champion at National Software Contest 2011 for "Bengali News and Blogs Search Engine: Pipilika."
- mBillionth South Asia Award 2010 for "SMS based Registration and Paperless Admission System."
- National e-Content Award 2010 for "SMS based Registration and Paperless Admission System."
- UGC Best Student Award 2007 for achieving record CGPA from SUST CSE department.
- University Scholarship 2003-2006 for achieving best results in every academic year from SUST.
- Primary School Talent-pool Scholarship 1993 by UNICEF and the Government of Bangladesh.

PROJECTS

- **Pipilika: Bengali Text Search Engine.** Live at <http://pipilika.com>, and serve 3,000 queries/day. Funded by GPIT, Accenture and Access to Information Programme of Prime Minister's Office in Bangladesh.
- **Ribo: A Social Humanoid Robot.** Ribo can speak, interact with humans, make facial gestures, handshake and dance (<https://ribo.rocks/>). Funded by Science Fiction Society and Ministry of ICT in Bangladesh.
- **Mongol Dip: Bilingual Screen Reading Software for Visually Impaired People.** Used for ICT training of blind people by Visually Impaired People Society. Funded by Ministry of Science and Technology, Bangladesh.
- **Subachan: Bengali Text to Speech Synthesis Software.** This software provide text to speech services to the users of Mongol Dip. Funded by Ministry of Science and Technology, Bangladesh.
- **Cloud Platform based Digital Admission System.** Every educational institute under Ministry of Education use similar system in Bangladesh. This project won several awards for minimizing digital divide in Bangladesh.

PROGRAMMING COMPETITION

- ACM ICPC World Finals 2012, Poland: Participated as co-trainer of team SUST Palindrome.
- SIUPC - 2011, Sylhet, Bangladesh: Problem setter and member of judging panel for contest.
- ACM ICPC Regional Contest (Dhaka) 2006: Placed 5th as contestant among 90 teams.

REFERENCE

- Professor Steven Skiena, CS Department, Stony Brook University, NY, USA. email: skiena@cs.sunysb.edu
- Professor Thomas MacCarthy, AMS Department, SBU, NY, USA. email: thomas.maccarthy@stonybrook.edu
- Dr. Baris Coskun, Senior Research Scientist, Amazon AI, NY, USA. email: barisco@amazon.com