Mohammad Saqib Hasan

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Education

Stony Brook, NY	**Stony Brook University**	**Aug 2021 – Now**

- Ph.D. in Computer Science. **CGPA**: 3.89. **Research advisor**: Niranjan Balasubramanian. **Research area**: Semantic parsing and auto-formalization.

Dhaka, Bangladesh	**BUET**	**Jul 2014 – Oct 2018**

- B.Sc. in Computer Science and Engineering. **CGPA**: 3.80. **Thesis**: Analysis of Weight Distribution and Initialization in Neural Network Inspired by Neuroscience

Employment

Research Engineer	**BUET**	**Nov 2018 – Dec 2020**

- **Supervisor**: Muhammad Abdullah Adnan
- Developed a novel weight initialization algorithm for neural networks inspired by the prevalence of lognormal distribution in the structure of mammalian brains.
- Created a novel news veracity detection methodology based on active learning to develop high-performing neural models at lower annotation costs.
- Worked on creating an application utilizing an online version of the Principal Component Analysis algorithm in order to analyze latent feature trends in real-time social data.

Technical Experience

Paper

- **ParKing: partial knowledge for formalizing specifications**. Under review.
- **Compressed neural architecture utilizing dimensionality reduction and quantization**. Applied Intelligence, Springer
- **Truth or lie: pre-emptive detection of fake news in different languages through entropy-based active learning and multi-model neural ensemble**. ASONAM 2020
- **Neuro-scientific analysis of weights in neural networks**. IJPRAI, World Scientific

Projects

- **Weakly supervised active learning scenario for named entity recognition in difficult annotation settings**: Devised a methodology for training NER models by combining weakly supervised pre-training followed by active learning with full labels, thereby decreasing annotation cost.
- **Understanding the variables affecting Covid-19 vaccination rates across counties in the United States**: Analysis of Covid-19 vaccination rates in the United States on a county level using publicly available data and social media posts (Twitter) and developing statistical models to predict vaccination rates given information about a county.

Service and Awards

- Received the prestigious SUNY RF Academic Fellowship for summer, 2022
- Acted as a supervisor during the HerWill Datathon 2022.
- Champion at "Hackathon for Environmental Migrants in Bangladesh", organized by professor Ingrid Boas.
- Won the 'ICT Innovation Fund' research grant for the project titled "Detection of Fake News Using Deep Learning for a Cleaner and Safe Internet" from ICT Division, Government of the People's Republic of Bangladesh.