ABIYAZ CHOWDHURY

PhD student

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EDUCATION

2017-2023 (expected)
Doctor of Philosophy — **Stony Brook University, Stony Brook, NY**
Computer Science, Full Tuition Scholarship (2017-present)

2016-2017
Master of Engineering — **Cooper Union for the Advancement of Science and Art, New York, NY**
Electrical Engineering, Half Tuition Scholarship (2016-2017)

2012-2016
Bachelor of Engineering — **Cooper Union for the Advancement of Science and Art, New York, NY**
Electrical Engineering, Full Tuition Scholarship (2012-2016)

EXPERIENCE

2017 - present
Research Assistant — **Stony Brook University, Stony Brook, NY**
Designed, implemented and evaluated state of the art external memory algorithms and graph streaming algorithms. Proved theorems establishing asymptotic improvements to existing graph streaming algorithms. Configured and deployed AWS clusters and compared the performance of various distributed graph streaming algorithms on such clusters. Published papers in SIGMOD and ESA on the above work.
`C++ / Python / OpenMPI / Apache Spark / Ansible`

2017 - 2022
Teaching Assistant — **Stony Brook University, Stony Brook, NY**
Created and graded assignments and exams, proctored exams and occasionally taught lectures for several computer science courses:

- Intro Data Structures (Fall 2017)
- Honors Data Structures (Fall 2017)
- Software Engineering (Spring 2018)
- Computational Geometry (Fall 2018)
- Natural Language Processing (graduate) (Fall 2018)
- Honors Theory of Computation (Spring 2019)
- Operating Systems (Spring 2020)
- Analysis of Algorithms (graduate) (Fall 2022)

2017 summer
Research Intern — **Florida Institute for Human and Machine Cognition, Pensacola, FL**
Developed and tested the base machine learning architectures for the Saul modeling language, which models input data as graphs, and subsequently performs feature extraction on such graphs to obtain input features for learning algorithms.
`Scala / Java`

2014 summer
Teaching Assistant — **Cooper Union for the Advancement of Science and Art, New York, NY**
Mentored high school students in a summer program on digital logic circuits. Taught lectures and supervised students' laboratory work.

PUBLICATIONS

SIGMOD 2022
"GraphZeppelin: Storage-Friendly Sketching for Connected Components on Dynamic Graph Streams." Proceedings of the International Conference on Management of Data (SIGMOD).

ESA 2022
"When Are Cache-Oblivious Algorithms Cache Adaptive? A Case Study of Matrix Multiplication and Sorting." European Symposium on Algorithms (ESA).

SPAA 2023 (submitted)
"Landscape: Distributed Graph Sketching." Symposium on Parallelism in Algorithms and Architectures (SPAA).