

Shaan Ul Haque

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Research Interests: Reinforcement Learning, Stochastic Approximation, Machine Learning

EDUCATION

PhD in Machine Learning, Industrial and Systems Engineering, Georgia Tech, GPA: 4/4 2022 — present

– *Advisor: Prof. Siva Theja Maguluri*

Bachelor of Technology, Electrical Engineering, IIT Bombay, GPA: 9.52/10 2018 — 2022

– *Minor, Computer Science and Engineering*, IIT Bombay

– *Honours, Electrical Engineering*, IIT Bombay

Intermediate/+2, Science, Delhi Public School, Ranchi, Percentage: 92.7% 2017 — 2018

Matriculation, Delhi Public School, Ranchi, CGPA: 10/10 2015 — 2016

SCHOLASTIC ACHIEVEMENTS

- Recipient of **Stewart Topper Fellowship Award** from ISyE, Georgia Tech
- Recipient of **ISYE Stewart M. Fell Stipend** from ISyE, Georgia Tech
- Awarded **Undergraduate Research Award-01** (URA-01) by IIT Bombay for research on **RADAR Imaging**
- Secured **All India Rank 111** in **JEE Advanced, 2018** among selected 172,000 aspirants
- Bagged a rank of **481** in **JEE Mains, 2018** among 1.2 million students across the whole country
- Stood among the **state wise top 1%** in **National Standard Examination in Chemistry (NSEC)**
- Recipient of fellowship by the **Indian Institute Of Science (IISc), Bangalore** for clearing **Kishore Vagyanik Protsahan Yojana (KVPY)**
- Awarded scholarship by Government of India for clearing **NTSE (National Talent Search Examination)**

PUBLICATIONS

- **SU Haque**, S. Khodadadian, ST Maguluri, “Tight Finite Time Bounds of Two-Time-Scale Linear Stochastic Approximation with Markovian Noise”, arXiv:2401.00364 , under preparation
- **SU Haque**, A. Rajwade, K. Gurumoorthy, “Joint Probability Estimation Using Tensor Decomposition and Dictionaries” in European Signal Processing Conference (EUSIPCO) 2022 (Link)
- **SU Haque**, S. Chandak, F. Chiariotti, D. Gunduz, P. Popovski, “Learning to Speak on Behalf of a Group: Medium Access Control for Sending a Shared Message” in IEEE communication Letters 2022 (Link)
- S. Sharma, A. Girish, N. Rakhashia, V. M. Gadre, **SU Haque**, A. Ansari, R.B. Pachori, P. Radhakrishna, P. Sahay, “Joint Probability Estimation Using Tensor Decomposition and Dictionaries” in National Conference on Communications (NCC) 2022 (Link)

INVITED TALKS

- “Tight Finite Time Bounds of Two-Time-Scale Linear Stochastic Approximation with Markovian Noise”, ACO Student Seminar, April 2024 (Slides)

KEY COURSES

- **Computer Science**- Design and Analysis of Algorithms, Machine Learning: Theory and Methods, Mathematical Foundations of Machine Learning, Advanced Machine Learning, Foundations of Intelligent and Learning Agents, Advanced Algorithms for Image Processing
- **Optimization**- Optimization for Reinforcement Learning, Linear Programming, First order methods in optimization for Machine Learning,
- **Mathematics and Statistics**- Stochastic Processes 1, Theoretical Statistics, Real Analysis, Introduction to Stochastic Optimization, Advanced Probability and Random Processes

TECHNICAL SKILLS

- **Programming Languages and Libraries**- C++, Python, Tensorflow, NumPy, PuLP, MATLAB
- **Software**- GNUPlot, Keil μ Vision, Scilab, \LaTeX , SolidWorks, NgSpice, Quartus, Eagle, AutoCAD, Xcircuit

TEACHING EXPERIENCE

- **ISyE 2027 (TA)** - Probability with Applications
 - Instructor: Prof. Sigrun Andradottir, Spring 2023
 - Instructor: Prof. Robert Foley, Fall 2022

POSITION OF RESPONSIBILITIES

- **Organizing Assistant | AI4OPT, Georgia Tech** [Aug '23 - Dec '23]
Assisted in organizing 15+ weekly seminar series for AI4OPT
- **Activity Associate | Green Campus, National Service Scheme(NSS), IITB** [Apr '19 - Apr '20]
Mentored 100+ volunteers with a team of 7 members for the rejuvenation of ecosystem of the institute