

# Md Abrar Jahin, CSCA<sup>TM</sup>

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Citizenship: Bangladesh

[GitHub](#)  
[LinkedIn](#)  
[Personal Website](#)

[Google Scholar](#)  
[ResearchGate](#)  
[ORCID](#)

Education	<b>University of Southern California (USC)</b> Ph.D. in Computer Science • Awarded Viterbi Graduate School Fellowship for 2025-2026 • Co-advised by <a href="#">Prof. Craig Knoblock</a> and <a href="#">Prof. Jay Pujara</a>  <b>Khulna University of Engineering &amp; Technology (KUET)</b> B.Sc. Eng. in Industrial & Production Engineering CGPA: 3.83/4.00 (Top 5% of class) • Dean's award: 2018-2019, 2019-2020, 2020-2021 • Thesis title: Supply Chain Backorder Prediction Using Interpretable Hybrid Quantum-Classical Neural Network [ <a href="#">The- sis Presentation</a> ] [Supervisor: <a href="#">Dr. Md. Saiful Islam</a> ] • Developed the first-ever LaTeX template for B.Sc. Undergrad Thesis of KUET [ <a href="#">Template</a> ] • First Highly Commended Research Awardee from the Global Undergraduate Awards (2025) in KUET's history • <a href="#">Google Knowledge Panel</a> of Md Abrar Jahin	Los Angeles, CA, USA Aug 2025 – Present  Khulna, Bangladesh Nov 2018 – Mar 2024
Research Interests	† Efficient Deep Learning (DL) • <i>Geometric &amp; Spiking Neural Networks, Kolmogorov-Arnold Networks (KAN), Physics-informed Neural Networks (PINN)</i> † Quantum Computing • <i>Quantum Machine Learning (QML)</i> † Trustworthy AI • <i>Explainable AI (XAI)</i> • <i>Uncertainty Quantification</i> ◇ <i>Conformal Prediction</i> † Self-Supervised Learning (SSL) • <i>Contrastive Learning</i> † Reinforcement Learning (RL) • <i>Inverse RL, Imitation Learning</i> † Natural Language Processing (NLP) • <i>Sentiment Analysis</i>	
Research Experiences	❖ <b>AI Researcher</b> <i>Center of Knowledge Graphs, USC Information Sciences Institute (ISI), Marina del Rey, CA, USA</i> Supervisors: <a href="#">Prof. Craig Knoblock</a> and <a href="#">Prof. Jay Pujara</a> Research project: Modeling Sparse and Heterogeneous Geochemistry Data to Accelerate Critical Mineral Discovery  ❖ <b>Machine Learning Researcher</b> <i>Upwork, Freelance (Remote)</i> ■ Awarded the 'Rising Talent' badge on Upwork within six months of joining, in recognition of my in-demand skills, strong performance, and impressive professional background.  ❖ <b>Lead Researcher</b> <i>Advanced Machine Intelligence Research Lab (AMIRL), American International University-Bangladesh (AIUB)</i> Roles: Research Assistant (Mar 2023 - Dec 2023), Researcher (Dec 2023 - Feb 2024), Lead Researcher (May 2024 - Present) Supervisors: <a href="#">Prof. M. F. Mridha</a> and <a href="#">Prof. Nilanjan Dey</a> ◆ Collaborators: <a href="#">Prof. R. Simon Sherratt</a> (IEEE Fellow, IET Fellow), <a href="#">Prof. Jungpil Shin</a> , <a href="#">Prof. Yuichi Okuyama</a> , <a href="#">Prof. Zeyar Aung</a> , <a href="#">Prof. Yutaka Watanobe</a> , <a href="#">Prof. Md. Rashedul Islam</a> , <a href="#">Prof. Md. Jakir Hossen</a> , <a href="#">Prof. Md. Abdul Hamid</a> , <a href="#">Prof. Muhammad Mostafa Monowar</a> ■ Published 10+ <b>WoS Q1</b> journal articles and <b>CORE-ranked</b> conference articles (concentration: DL, QML, GNN, XAI, conformal prediction, human-in-the-loop, NLP, and operations research).	Aug 2025 – Present  Jan 2025 – Jul 2025  Mar 2023 – Present
	❖ <b>Visiting Researcher (VR)</b> <i>Physics and Biology Unit, Okinawa Institute of Science and Technology Graduate University (OIST), Japan</i> Supervisor: <a href="#">Prof. Jonathan Miller</a> [BS (Yale); PhD Biology (Cambridge); PhD Physics (Caltech)] Research project: Evolution of Strongly Conserved Sequence [ <a href="#">Code Repository</a> ]	Mar 2024 – Mar 2025

- [\[FY2023 Annual Report\]](#) [\[OIST Affiliation\]](#)

#### ❖ Visiting Research Student (VRS)

Feb 2023 – Feb 2024

Physics and Biology Unit, OIST, Japan

Supervisor: [Prof. Jonathan Miller](#) [BS (Yale); PhD Biology (Cambridge); PhD Physics (Caltech)]

Research project: Evolution of Strongly Conserved Sequence [\[Certificate\]](#)

Collaborators: [Dr. Lucia Žifčáková](#), [Dr. Priscila Do Nascimento Biller](#), [Dr. Zdenek Lajbner](#), and [Dr. Reuven Pnini](#)

- Critically analyzed and visually represented all potential combinations of inter-gap segments (IGS), ancestral repeats (ARs), and contiguous mismatched ARs in human/mouse and human/gorilla genome alignments, focusing on both DNAs and repetitive sequences.
- Successfully replicated the findings of the neutral indel model proposed by [Lunter, Pointing, and Hein \(2006\)](#).

#### ❖ Research Lead

May 2022 – Mar 2023

Research Camp 02, Scholarship School BD, Bangladesh

Supervisor: [Dr. Mohammad Arafat Hussain](#) (Post-doctoral Research Fellow at Image, Informatics & Intelligence Research Lab, Harvard Medical School; PhD in Biomedical Eng., UBC Canada; MSc in Biomedical Eng., UBC)

- Led the research team of 17 fellow researchers as a co-first author on a project titled “[Ultrasound-Based AI for COVID-19 Detection: A Comprehensive Review of Public and Private Lung Ultrasound Datasets and Studies](#)”.
- Contributed to writing the original manuscript, software implementation, and data curation, and served as a corresponding author for the entire communication with the journal.

#### ❖ Research Intern (RI)

Oct 2021 – Mar 2022

Physics and Biology Unit, OIST, Japan

Supervisor: [Prof. Jonathan Miller](#) [BS (Yale); PhD Biology (Cambridge); PhD Physics (Caltech)]

- Awarded a full-funded scholarship with a daily allowance of JPY 2400 per working day [\[Offer Letter\]](#) [\[RI Agreement\]](#) [\[Internship Certificate\]](#) (acceptance rate: 14%)
- Tracked erroneous out-of-bound PCS coordinates generated by [Nash and Lenhard \(2018\)](#), utilizing R and Bedtool, and resolved complexity issues using Python 3.10.
- Demonstrated shell scripting and parallel computing proficiency on the HPC Deigo cluster.
- Conducted research on perfectly conserved sequence (PCS) length distributions of UCSC 44 pairwise genome sequences.
- Analyzed quantile kurtosis of PCS lengths proposed by [Nash and Lenhard \(2018\)](#) and identified a ‘knee’ in the PCS distributions of the heavy-tailed region.
- Optimized Nash and Lenhard’s 3 R scripts for PCS generation, quantile kurtosis analysis, and genomic regulatory blocks (GRBs), reducing time and memory complexity. Successfully reproduced PCS coordinates following UCSC format and fixed genome coordinate-related errors in R’s Bioconductor package.

#### ❖ Research Intern

May 2021

UiT - The Arctic University of Norway

Supervisors: [Prof. Aleksander Pedersen](#), [Prof. Rune Dalmo](#), [Ghada Bouzidi](#)

Internship Mentor: [Prof. Per Arne Sundsbø](#)




- Conducted comprehensive data and statistical analysis on the Narvik road dataset as part of the DIT4BEARS Smart Road project. [\[Internship Report\]](#) [\[Project Source Code\]](#) [\[Certificate\]](#)
- Designed, implemented, and evaluated ML models that successfully identified six road states, addressing the challenges of winter weather conditions in the Barren Euro-Arctic region.
- Proposed a novel safety metric and utilized Ridge, Lasso, Elastic Net, Linear Regression, and XGBRegressor to forecast its values.










#### Publications

I have 229 citations according to Google Scholar as of September 29, 2025 ([h-index = 8](#), [i10-index = 8](#))













\* Denotes co-first authorship.

#### Journal Articles

- [J-12] [Jahin, M. A.](#), Naife, S. A., Lima, F. T. J., Mridha, M. F., & Hossen, M. J. (2025). Predicting Male Domestic Violence Using Explainable Ensemble Learning and Exploratory Data Analysis. *Discover Applied Sciences*. 
- [J-11] [Jahin, M. A.](#), Masud, M. A., Mridha, M. F., Aung, Z., & Dey, N. (2025). KACQ-DCNN: Uncertainty-Aware Interpretable Kolmogorov-Arnold Classical-Quantum Dual-Channel Neural Network for Heart Disease Detection. *Computers in Biology and Medicine*, 197, 110976. 
- [J-10] [Jahin, M. A.](#)\*, [Shahriar, A.](#)\*, & [Amin, M. A.](#) (2025). MCDNF: Supply Chain Demand Forecasting via an Explainable Multi-Channel Data Fusion Network Model. *Evolutionary Intelligence*, 18(3), 66. 

- [J-9] Morshed, A., Shihab, A. A., **Jahin, M. A.**<sup>\*</sup>, Nahian, M. J. A., Sarker, M. M. H., Wadud, M. S. I.<sup>\*</sup>, Uddin, M. I., Siraji, M. I., Anjum, N., Shristy, S. R., Rahman, T., Khatun, M., Dewan, M. R., Hossain, M., Sultana, R., Chakma, R., Emon, S. B., Islam, T., & **Hussain, M. A.**<sup>\*</sup> (2025). Ultrasound-Based AI for COVID-19 Detection: A Comprehensive Review of Public and Private Lung Ultrasound Datasets and Studies. *Multimedia Tools and Applications*. 
- [J-8] **Jahin, M. A.**, Masud, M. A., Suva, M. W., Mridha, M. F., & Dey, N. (2025). Lorentz-Equivariant Quantum Graph Neural Network for High-Energy Physics. *IEEE Transactions on Artificial Intelligence*, 1–11. 
- [J-7] **Jahin, M. A.**, Shovon, M. S. H., Mridha, M. F., Islam, M. R., & Watanobe, Y. (2024). A hybrid transformer and attention based recurrent neural network for robust and interpretable sentiment analysis of tweets. *Scientific Reports*, 14(1), 24882. 
- [J-6] Shahriar, H.<sup>\*</sup>, Islam, M. S., **Jahin, M. A.**<sup>\*</sup>, Ridoy, I. A., Prottoy, R. R., Abid, A., & Mridha, M. F. (2024). Exploring Internet of Things Adoption Challenges in Manufacturing Firms: A Delphi Fuzzy Analytical Hierarchy Process Approach. *PLoS ONE*, 19(11), e0311643. 
- [J-5] Saha, A. K.<sup>\*</sup>, **Jahin, M. A.**<sup>\*</sup>, **Rafiquzzaman, M.**, & Mridha, M. F. (2024). Ergonomic Design of Computer Laboratory Furniture: Mismatch Analysis Utilizing Anthropometric Data of University Students. *Heliyon*, 10(14). 
- [J-4] Ahmad, K.<sup>\*</sup>, Islam, M. S., **Jahin, M. A.**<sup>\*</sup>, & Mridha, M. F. (2024). Analysis of Internet of things implementation barriers in the cold supply chain: An integrated ISM-MICMAC and DEMATEL approach. *PLoS ONE*, 19(7), e0304118. 
- [J-3] **Jahin, M. A.**, Shovon, M. S. H., Shin, J., Ridoy, I. A., & Mridha, M. F. (2024). Big Data - Supply Chain Management Framework for Forecasting: Data Preprocessing and Machine Learning Techniques. *Archives of Computational Methods in Engineering*, 31(6), 3619–3645. 
- [J-2] **Jahin, M. A.**, & **Talapatra, S.** (2024). A Natural Language Processing-Based Classification and Mode-Based Ranking of Musculoskeletal Disorder Risk Factors. *Decision Analytics Journal*, 11, 100464. 
- [J-1] **Jahin, M. A.**, Shovon, M. S. H., Islam, M. S., Shin, J., Mridha, M. F., & Okuyama, Y. (2023). QAmplifyNet: Pushing the boundaries of supply chain backorder prediction using interpretable hybrid quantum-classical neural network. *Scientific Reports*, 13(1), 18246. 

#### Under-Review Journal/Conference Articles

- [U-14] Masud, M. A., **Jahin, M. A.**, & Hasan, M. (2025). Stabilizing Federated Learning under Extreme Heterogeneity with HeteRo-Select. Under review at *IEEE TNNLS*. 
- [U-13] **Jahin, M. A.**, Abid, A., & Mridha, M. F. (2025). Quantum-Informed Contrastive Learning with Dynamic Mixup Augmentation for Class-Imbalanced Expert Systems. Under review at *Expert Systems With Applications*. 
- [U-12] Nasif, S. M.<sup>\*</sup>, **Jahin, M. A.**<sup>\*</sup>, & Mridha, M. F. (2025). Reinforcement-Guided Hyper-Heuristic Hyperparameter Optimization for Fair and Explainable Spiking Neural Network-Based Financial Fraud Detection. Under review at *Knowledge-Based Systems*. 
- [U-11] **Jahin, M. A.**, Soudeep, S., Mridha, M. F., Monowar, M. M., & Hamid, M. A. (2025). Physics-Informed Graph Neural Networks for Transverse Momentum Estimation in CMS Trigger Systems. Under review at *Computer Physics Communications*. 
- [U-10] **Jahin, M. A.**, Masud, M. A., Mridha, M. F., Dey, N., & Aung, Z. (2025). Quantum Rationale-Aware Graph Contrastive Learning for Jet Discrimination. Under review at *PNAS*. 
- [U-9] **Jahin, M. A.**<sup>\*</sup>, Soudeep, S.<sup>\*</sup>, Mridha, M. F., & Dey, N. (2025). Soybean Disease Detection via Interpretable Hybrid CNN-GNN: Integrating MobileNetV2 and GraphSAGE with Cross-Modal Attention. Under review at *Neural Computing and Applications*. 
- [U-8] **Jahin, M. A.**, Mridha, M. F., & Dey, N. (2025). Human-in-the-Loop Feature Selection Using Interpretable Kolmogorov-Arnold Network-based Double Deep Q-Network. Under review at *IEEE Transactions on Automation Science and Engineering*. 
- [U-7] Islam, M. A., Mridha, M. F., **Jahin, M. A.**, & Dey, N. (2024). A Unified Framework for Evaluating the Effectiveness and Enhancing the Transparency of Explainable AI Methods in Real-world Applications. Under review at *SN Computer Science*. 
- [U-6] Soudeep, S.<sup>\*</sup>, **Jahin, M. A.**<sup>\*</sup>, & Mridha, M. F. (2025). Interpretable Dynamic Graph Neural Networks for Small Object Detection and Tracking in Traffic Surveillance. Under review at *Information Sciences*. 
- [U-5] Uddin, M. K., Islam, M. S., **Jahin, M. A.**, Irfan, M. T. H., Seam, M. S. I., & Mridha, M. F. (2025). Designing Cellular Manufacturing System in Presence of Alternative Process Plans. Under review at *IIE Transactions*. 
- [U-4] Uddin, M. K., Islam, M. S., **Jahin, M. A.**, Seam, M. S. I., & Mridha, M. F. (2025). Solving Generalized Grouping Problems in Cellular Manufacturing Systems Using a Network Flow Model. Under review at *OPSEARCH*. 
- [U-3] **Jahin, M. A.**, Mridha, M. F., Aung, Z., Dey, N., & **Sherratt, R. S.** (2024). TriQXNet: Forecasting Dst Index from Solar Wind Data Using an Interpretable Parallel Classical–Quantum Framework with Uncertainty Quantification. Under review at *npj Space Exploration*. 

- [U-2] Rahman, M. M. \*, **Jahin, M. A. \***, Islam, M. S., & Mridha, M. F. (2025). Optimizing Container Loading and Unloading through Dual-Cycling and Dockyard Rehandle Reduction Using a Hybrid Genetic Algorithm. Under review at *European Journal of Operational Research*.
- [U-1] **Jahin, M. A.**, Naife, S. A., Saha, A. K., & Mridha, M. F. (2025). AI in Supply Chain Risk Assessment: A Systematic Literature Review and Bibliometric Analysis. Under review at *Annals of Operations Research*.

### Conference Articles and Book Chapters

- [C-6] **Jahin, M. A.**, Soudeep, S., Mridha, M. F., Fahad, N., & Hossen, M. J. (2025, October 9-13). DyCAF-Net: Dynamic Class-Aware Fusion Network. In *Proceedings of the 12th IEEE International Conference on Data Science and Advanced Analytics (DSAA'25)*. Birmingham, UK. [Poster] [**CORE A**, Acceptance Rate: 85/226=37.61%]
- [C-5] **Jahin, M. A.**, Fuad, T. R., Mridha, M. F., Fahad, N., & Hossen, M. J. (2025, October 19). *AdeptHEQ-FL: Adaptive Homomorphic Encryption for Federated Learning of Hybrid Classical-Quantum Models with Dynamic Layer Sparring* [Poster Presentation]. 1st International Workshop on Biomedical Image and Signal Computing for Unbiasedness, Interpretability, and Trustworthiness (**BISCUIT @ ICCV'25**). In *2025 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW)*, Honolulu, Hawaii. [**CORE A\***] [Poster]
- [C-4] **Jahin, M. A.**, Soudeep, S., Aditta, A. R., Mridha, M. F., Fahad, N., Hossen, M. J. (2025, August 16). In Ma, Y., et al. (Eds), *Vision Transformers for End-to-End Quark-Gluon Jet Classification from Calorimeter Images* [Poster Presentation]. Generalizing from Limited Resources in the Open World (**GLOW @ IJCAI'25**), Montreal, Canada. *Communications in Computer and Information Science: Vol. 2640, pp. 135–150*. Springer. [**CORE A\***] [Poster]
- [C-3] **Jahin, M. A. \***, Soudeep, S. \*, Farid, F. A., Mridha, M. F., Kabir, R., Islam, M. R., & Karim, H. A. (2025, July 1-4). *CAGN-GAT Fusion: A Hybrid Contrastive Attentive Graph Neural Network for Network Intrusion Detection*. In H. Fujita, Y. Watanobe, M. Ali, & Y. Wang (Eds), *Advances and Trends in Artificial Intelligence. Theory and Applications. 38th International Conference on IEA/AIE*, Kitakyushu, Japan. (Lecture Notes in Computer Science: Vol. 15707, pp. 415–428). Springer. [**CORE C**, Acceptance Rate: 89/130=68.46%]
- [C-2] Žifčáková, L., **Jahin, M. A.**, & Miller, J. (2022, December 13-15). *Perfectly conserved sequences (PCS) between human and mouse are significantly enriched for exonic small proteins* [Poster presentation]. Bioinformatics and Computational Biology Conference (**BBCC'22**), Virtual. [Poster]
- [C-1] Žifčáková, L., & **Jahin, M. A.** (2023, July 23-27). *Perfectly conserved sequences (PCS) between human and mouse are significantly enriched for small-protein coding sequence* [Poster presentation]. Society for Molecular Biology and Evolution (**SMBE'23**), Ferrara, Emilia-Romagna, Italy. [Poster]

### Research Internship Report

- [R-1] **Jahin, M. A.**, & Krutsylo, A. (2021). DIT4BEARs Smart Roads Internship (arXiv:2107.06755). arXiv.

### Grant/Funding Competitive Research Funding – AI

- |  |                |
|--|----------------|
| [1] University of Aizu (Japan) (×2) for [J-1] & [J-3] – Research Sponsor: Prof. Jungpil Shin   | 2023 – 2024    |
| [2] Khalifa University (UAE) (×3) for [J-11], [U-3] & [U-10] – Research Sponsor: Prof. Zeyar Aung  | 2024 – Present |
| [3] Hamad Bin Khalifa University (Qatar) (×1) for [J-10] – Research Sponsor: Prof. Md Al Amin  | 2024 – 2025    |
| [4] University of Aizu (Japan) (×1) for [J-7] – Research Sponsor: Prof. Yutaka Watanobe  | 2024           |
| [5] Multimedia University (Malaysia) (×4) for [C-3], [C-4], [C-5], & [C-6] – Research Sponsors: Prof. Md. Jakir Hossen & Prof. Hezerul Abdul Karim | 2025           |

### Honors and Scholarships

- **Highly Commended Research Awardee (x2 Articles) – The Global Undergraduate Awards (GUA)** 2025  
Recognized in the top 10% globally in the Computer Science category for 2 undergraduate papers [U-14] & [C-6] and the only recipient worldwide in 2025 to receive dual commendations [[Honor](#)] [[Certificate](#)]
- **Viterbi Graduate School Fellowship – University of Southern California** 2025–2026  
Prestigious first-year PhD fellowship awarded for exceptional academic promise. Includes \$44,290 annual stipend, full tuition (up to 36 units/year), transportation, student programming, health & dental insurance, and summer support.
- **Champion – CS50x Puzzle Day – Harvard University – Meta** 2025  
Led a 4-person international team (Bangladesh, USA, India, and Pakistan) and solved advanced 9/9 puzzles (including Metapuzzle) [[Certificate](#)]
- **Student Researcher of the Year Award 2024 – KUET Research Society** 2024  
Published the highest number of high-impact research articles (Oct 2023 – Nov 2024) in KUET [[Award](#)]
- **MIT Solve – 2024 Global Health Equity Challenge** 2024  
Founded SpecX, an XAI-powered web app, for sentiment-driven disease profiling & specialist allocation [[Solution](#)]
- **Champion – CS50x Puzzle Day – Harvard University – Meta** 2024  
Led a 5-person international team (Bangladesh, USA, Morocco, and Pakistan) and solved advanced 9/9 puzzles (including Metapuzzle) [[Certificate](#)]
- **Dean's Award (x3) – KUET** 2023  
Received 3 Dean's awards in recognition of achieving annual GPAs  $\geq 3.75$  out of 4.00 in three consecutive years of undergraduate classes [[Certificate](#)]



	<p>□ <b>NASA Space Apps Challenge – Global Nominee</b> 2023  Led a 5-person team and forecast geomagnetic storms using hybrid deep neural networks from satellite data – [<a href="#">Project</a>] [<a href="#">30 seconds of glory video</a>]</p> <p>□ <b>Finalist – HONDA Y-E-S (Young Engineer and Scientist’s) Award 2022</b> 2023  Awarded for being among the top 15 Bangladeshi young engineering undergrad student scientists [<a href="#">Award &amp; certificate</a>]</p> <p>□ <b>Junior Research Fellowship – Bangladesh Space Research and Remote Sensing Organization</b> 2022  Nominated as the junior-most research fellow by SPARRSO among the other excellent 55 undergraduate researchers for the project titled “Disaster Damage Mitigation by Multispectral Remote Sensing Satellite Image Data Analysis: A Deep Learning Approach” [<a href="#">Project nomination</a>] [<a href="#">Presentation video</a>]</p> <p>□ <b>Qiskit Gold Level Translator – English to Bengali</b> 2021  Translated 22101 and proofread 25375 words of IBM Qiskit’s first-ever textbook, collaborating with the West Bengal and Bangladeshi Qiskit translator team of 36 members [<a href="#">Certificate</a>]</p> <p>□ <b>Top 6 among 385 teams – Entrepren Season-2: Crafting Visions</b> 2021  Developed a feasible and sustainable business canvas model for our Git and Jenkins integrated freelancing startup [<a href="#">Case solution</a>] [<a href="#">Finalist</a>]</p> <p>□ <b>Top 500 – Google Android App Developer Challenge</b> 2021  Engineered a countdown timer app on <i>Android Studio</i> with <i>Jetpack Compose Beta</i> using Kotlin language [<a href="#">Source Code</a>] [<a href="#">Google swags</a>]</p> <p>□ <b>Global Champion – Smart Roads Hackathon</b> 2021  Executed a 2-person team and devised an ML model to forecast winter road friction and was offered a 1-month research internship at <i>UiT - The Arctic University of Norway</i> [<a href="#">Project Page</a>]</p> <p>□ <b>Winner – ISCEA Ptak Prize Global SCM Case Competition</b> 2020  Led a 4-person team and achieved 70% scholarship for completing the course for the professional certification titled <i>Certified Supply Chain Analyst (CSCA)</i> [<a href="#">Case solution</a>] [<a href="#">Certificate</a>]</p> <p>□ <b>Champion – CS50x Puzzle Day (Fall) – Harvard University</b> 2020  Spearheaded a 4-person international team (Bangladesh, UK, Pakistan, and Mexico) and solved advanced 8/8 puzzles [<a href="#">Certificate</a>]</p> <p>□ <b>Gold Honor – Ranked top 3% – IAAC</b> 2020  <i>International Astronomy &amp; Astrophysics Competition</i> [<a href="#">Solution</a>][<a href="#">Final round certificate</a>]</p> <p>□ <b>Champion – CS50x Puzzle Day (Spring) – Harvard University</b> 2020  Led a 3-person international team by fostering diversity &amp; inclusion (Bangladesh, Brazil, and India) and solved advanced 8/8 puzzles [<a href="#">Certificate</a>]</p> <p>□ <b>International Asteroid Search Collaboration – NASA</b> 2020  Administered a 4-person team and discovered 2 main belt asteroids by analyzing Pan-STARRS images using <i>Astrometrica</i> software [<a href="#">Certificate</a>]</p> <p>□ <b>Gold Honor – Ranked top 5% – IYMC</b> 2019  <i>International Youth Math Challenge</i> [<a href="#">Solution</a>][<a href="#">Final round certificate</a>]</p> <p>□ <b>Government Board Merit-based Scholarship (x4)</b> 2010 – 2018  PSC (2010; 17th in Rajshahi Board; awarded for 2 years), JSC (2013; awarded for 2 years), SSC (2016; awarded for 2 years), HSC (2018; awarded throughout 4-year B.Sc.) Govt. Board Exams</p>
Teaching Experience	<p><b>Intro to Programming with Python</b> Jan 2022  <i>Mini-Course Teacher, OIST, Japan</i></p> <p>♦ Topics covered: Intro, Anaconda, variables, lists, strings, control structures [<a href="#">Course materials &amp; details</a>]</p> <p>♦ Fellow Teachers: <a href="#">Dr. Nicholas Wardhana</a> and <a href="#">Dr. Jeremie Gillet</a></p>
Tutorials	<p><b>Operations Research</b> Jan 2023</p> <p>- Developed and presented the first-ever comprehensive Bengali online tutorials on Operations Research topics, facilitating 3rd-year IPE students.</p> <p>- Topics covered: Simplex Method, Two-Phase, Big M, Graphical Sensitivity Analysis, TORA. [<a href="#">YouTube Playlist</a>]</p> <p>- Reference book: “Operations Research – An Introduction” by Professor Hamdy A. Taha.</p>
Leadership & Advisory Roles	<p><b>KUET Research Society</b> Oct 2023 – May 2024  <i>Co-founder &amp; President</i></p> <ul style="list-style-type: none"> <li>• Served as an Executive Committee Member and President of the Industrial Engineering and Management Unit</li> <li>• Supervising (as an alumnus) 6 groups of research students concentrating on ML-DL and computational fuzzy logic, fostering cross-departmental research collaboration</li> <li>• Teaching (as an alumnus) scientific research methodology, research ethics, and journal article formatting, meeting publication criteria, and acquiring funding for publications</li> </ul>
Professional Service	<p><b>Peer Reviewer</b> Jul 2023 – Present</p> <p>Reviewed for 1 conference, 3 workshops, and 13 journals verified by Web of Science as of September 29, 2025 [<a href="#">WoS ResearcherID</a>]</p>

- ICML 2025 Workshops: LXAI, AIW, DataWorld
- IEEE Transactions on Systems, Man and Cybernetics: Systems
- Scientific Reports (Nature Portfolio)
- ACM Transactions on Intelligent Systems and Technology
- Expert Systems with Applications (Elsevier)
- IEEE Access
- Neural Networks (Elsevier)
- Computers & Industrial Engineering (Elsevier)
- Multimedia Tools and Applications (Springer Nature)
- Engineering Applications of Artificial Intelligence (Elsevier)
- The Journal of Supercomputing (Springer Nature)
- Cluster Computing (Springer Nature)
- Journal of Contemporary African Studies (Taylor & Francis)
- Journal of Multidisciplinary Healthcare (Taylor & Francis)
- 7th European Conference on Industrial Engineering and Operations Management (Augsburg, Germany, July 2024)

<b>Professional Memberships</b>	† ACM Student Member (USC ACM Chapter) [ <a href="mailto:mjahin@acm.org">mjahin@acm.org</a> ] [ <a href="#">Website</a> ]	<i>Aug 2025 – Present</i>
	† IEEE Graduate Student Member [Member # 96981120, Coastal Los Angeles Section]	<i>Sep 2025 – Present</i>

## Skills

### Programming

*Advanced and Proficient in:* Python, C/C++, R, SQL, SAS, Data Structure and Algorithm, Object Oriented Programming  
*Familiar with:* Kotlin

**Machine Learning:** Classical Deep Learning, Quantum Machine Learning (Qiskit, PennyLane, TorchQuantum), XAI, NLP, DASK: Parallel Computing, Tensorflow, Keras, PyTorch, IBM Watson

**Data Analysis and Optimization:** Microsoft Excel, IBM SPSS, Minitab, TORA, Gurobi, Beautiful Soup, Biopython, Bioconductor, NetworkX, OpenCV

**High-Performance Scientific Computing:** Deigo & Saion Cluster (OIST)

**Operating System:** Linux, Unix, Windows

**Version Control:** Git Bash, Github, GitLab

**Product Design:** AutoCAD 2021, SolidWorks 2022, Unity 2D

**Referencing Software:** Zotero, Mendeley

**Reviewing & Bibliometric Analysis:** Publish or Perish 8.0, Gephi, VOSviewer

**Writing tools:**  $\LaTeX$ , Microsoft Word

**Languages:** American English, Bengali (Native), Hindi

## Certifications

MITx: [CTL.SC4x: Supply Chain Technology and Systems](#) (Grade: 75%)

MITx: [6.431x: Probability - The Science of Uncertainty and Data](#) (Grade: 91%)

MITx: [CTL.SC0x: Supply Chain Analytics](#) (Grade: 83%)

MITx: [2.961.2x: Management in Engineering: Strategy and Leadership](#) (Grade: 77%)

HarvardX: [PH125.1x: Data Science: R Basics](#) (Grade: 83%)

Delftx: [UnixTx: Unix Tools: Data, Software and Production Engineering](#)

TAUx, IsraelX: [Unlocking Information Security: Part 1](#)

ISCEA: [Certified Supply Chain Analyst](#) (Grade: 88%)

Google: [IT Technical Support Fundamentals](#)

Google: [Crash Course on Python](#)

Google: [The Bits and Bytes of Computer Networking](#)

UCSanDiegoX: [DSE200x: Python for Data Science](#) (Grade: 89%)

Georgia Tech: [Speak English Professionally: In Person, Online & On the Phone](#)

IBM: [AI Chatbots without Programming](#)

IBM: [PY0101EN: Python 101 for Data Science](#)

Microsoft: [Introduction to Artificial Intelligence \(AI\)](#)