

Md Abrar Jahin, CSCATM

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| Education | University of Southern California (USC) Ph.D. in Computer Science • Awarded Viterbi Graduate School Fellowship for 2025-2026 • Co-advised by Prof. Craig Knoblock and Prof. Jay Pujara | Los Angeles, CA, USA Aug 2025 – Present |
| | Khulna University of Engineering & Technology (KUET) B.Sc. Eng. in Industrial & Production Engineering CGPA: 3.83/4.00 (<i>Top 5% of class</i>) • Dean's award: 2018-2019, 2019-2020, 2020-2021 • Thesis title: Supply Chain Backorder Prediction Using Interpretable Hybrid Quantum-Classical Neural Network [Thesis Presentation] [<i>Supervisor: Dr. Md. Saiful Islam</i>] • Developed the first-ever LaTeX template for B.Sc. Undergrad Thesis of KUET [Template] • First Highly Commended Research Awardee from the Global Undergraduate Awards (2025) in KUET's history • Google Knowledge Panel of Md Abrar Jahin | Khulna, Bangladesh Nov 2018 – Mar 2024 |
| Research Interests | † Efficient Deep Learning (DL) • <i>Geometric & 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 | ❖ AI Researcher <i>Center of Knowledge Graphs, USC Information Sciences Institute (ISI), Marina del Rey, CA, USA</i> Supervisors: Prof. Craig Knoblock and Prof. Jay Pujara Research projects: [1] Modeling Sparse and Heterogeneous Geochemistry Data to Accelerate Critical Mineral Discovery (STTR Phase II) [Funded by DARPA/USGS] [2] Enhancing Scalability of Knowledge Graphs for Enterprise Defense Solutions (STTR Phase I) [Funded by U.S. Air Force Research Laboratory (AFRL), led by SIMBA Chain, Inc.] [3] Temporal Knowledge Graphs for Multi-Hop Pattern Recognition | Aug 2025 – Present |
| | ❖ Machine Learning Researcher <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. | Jan 2025 – Jul 2025 |
| | ❖ Lead Researcher <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 - Aug 2025) Supervisors: Prof. M. F. Mridha and Prof. Nilanjan Dey ◆ Collaborators: Prof. R. Simon Sherratt (IEEE Fellow, IET Fellow), Prof. Jungpil Shin , Prof. Yuichi Okuyama , Prof. Zeyar Aung , Prof. Yutaka Watanobe , Prof. Md. Rashedul Islam , Prof. Md. Jakir Hossen , Prof. Md. Abdul Hamid , Prof. Muhammad Mostafa Monowar | Mar 2023 – Aug 2025 |

- Published 10+ WoS Q1 journal articles and CORE-ranked conference articles (concentration: DL, QML, GNN, XAI, conformal prediction, human-in-the-loop, NLP, and operations research).

❖ Visiting Researcher (VR)

Mar 2024 – Mar 2025

Physics and Biology Unit, Okinawa Institute of Science and Technology Graduate University (OIST), Japan

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

Research project: Evolution of Strongly Conserved Sequence [[Code Repository](#)]

- [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 392 citations according to Google Scholar as of January 27, 2026 ([h-index = 11, i10-index = 13](#))

* Denotes co-first authorship.

Journal Articles

- [U-14] **Jahin, M. A.**, Masud, M. A., Mridha, M. F., Dey, N., & Aung, Z. (2026). Quantum Rationale-Aware Graph Contrastive Learning for Jet Discrimination. *TMLR*. 
- [U-13] **Jahin, M. A.**, Mridha, M. F., Dey, N., & Hossen, M. J. (2026). Human-in-the-Loop Feature Selection Using Interpretable Kolmogorov-Arnold Network-based Double Deep Q-Network. *IEEE Open Journal of Computer Society*. 
- [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*, 8(26). 
- [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). MCDFN: 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.**^{*}, Nahian, M. J. A., Sarker, M. M. H., Wadud, M. S. I.^{*}, 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.**^{*} (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.^{*}, Islam, M. S., **Jahin, M. A.**^{*}, 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.^{*}, **Jahin, M. A.**^{*}, 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.^{*}, Islam, M. S., **Jahin, M. A.**^{*}, & 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-12] Masud, M. A., **Jahin, M. A.**, & Hasan, M. (2025). Stabilizing Federated Learning under Extreme Heterogeneity with HeteRo-Select. Under review at *IEEE TAI*. 
- [U-11] **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 *Neurocomputing*. 
- [U-10] Nasif, S. M.^{*}, **Jahin, M. A.**^{*}, & 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-9] **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-8] **Jahin, M. A.**^{*}, Soudeep, S.^{*}, 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 *SN Computer Science*. 
- [U-7] Islam, M. A., Mridha, M. F., **Jahin, M. A.**, & Dey, N. (2025). 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.^{*}, **Jahin, M. A.**^{*}, & Mridha, M. F. (2025). Interpretable Dynamic Graph Neural Networks for Small Object Detection and Tracking in Traffic Surveillance. Under review at *Applied Soft Computing*. 

- [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 *IET Collaborative Intelligent Manufacturing*.
- [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 *Journal of Intelligent Manufacturing and Special Equipment*.
- [U-3] **Jahin, M. A.**, Mridha, M. F., Aung, Z., Dey, N., & Sherratt, R. S. (2025). TriQXNet: Forecasting Dst Index from Solar Wind Data Using an Interpretable Parallel Classical–Quantum Framework with Uncertainty Quantification. Under review at *Quantum Machine Intelligence*.
- [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 *Journal of Marine Science and Technology*.
- [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 *SN Business & Economics*.

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. [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 Sparsing* [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 (ICCV) Workshops*, 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.
- [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.

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) (x2) for [J-1] & [J-3] – <i>Research Sponsor</i> : Prof. Jungpil Shin | 2023 – 2024 |
| | [2] Khalifa University (UAE) (x3) for [J-11], [U-3] & [U-10] – <i>Research Sponsor</i> : Prof. Zeyar Aung | 2024 – Present |
| | [3] Hamad Bin Khalifa University (Qatar) (x1) for [J-10] – <i>Research Sponsor</i> : Prof. Md Al Amin | 2024 – 2025 |
| | [4] University of Aizu (Japan) (x1) for [J-7] – <i>Research Sponsor</i> : Prof. Yutaka Watanobe | 2024 |
| | [5] Multimedia University (Malaysia) (x4) for [C-3], [C-4], [C-5], & [C-6] – <i>Research Sponsors</i> : Prof. Md. Jakir Hossen & Prof. Hezerul Abdul Karim | 2025 |
| Honors and Scholarships | <p>□ 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]</p> <p>□ 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.</p> <p>□ 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]</p> | |

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| | <input type="checkbox"/> Student Researcher of the Year Award 2024 – KUET Research Society Published the highest number of high-impact research articles (Oct 2023 – Nov 2024) in KUET [Award] | 2024 |
| | <input type="checkbox"/> MIT Solve – 2024 Global Health Equity Challenge Founded SpecX, an XAI-powered web app, for sentiment-driven disease profiling & specialist allocation [Solution] | 2024 |
| | <input type="checkbox"/> Champion – CS50x Puzzle Day – Harvard University – Meta Led a 5-person international team (Bangladesh, USA, Morocco, and Pakistan) and solved advanced 9/9 puzzles (including Metapuzzle) [Certificate] | 2024 |
| | <input type="checkbox"/> Dean's Award (x3) – KUET Received 3 Dean's awards in recognition of achieving annual GPAs ≥ 3.75 out of 4.00 in three consecutive years of undergraduate classes [Certificate] | 2023 |
| | <input type="checkbox"/> NASA Space Apps Challenge – Global Nominee Led a 5-person team and forecast geomagnetic storms using hybrid deep neural networks from satellite data – [Project] [30 seconds of glory video] | 2023 |
| | <input type="checkbox"/> Finalist – HONDA Y-E-S (Young Engineer and Scientist's) Award 2022 Awarded for being among the top 15 Bangladeshi young engineering undergrad student scientists [Award & certificate] | 2023 |
| | <input type="checkbox"/> Junior Research Fellowship – Bangladesh Space Research and Remote Sensing Organization 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” [Project nomination] [Presentation video] | 2022 |
| | <input type="checkbox"/> Qiskit Gold Level Translator – English to Bengali 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 [Certificate] | 2021 |
| | <input type="checkbox"/> Top 6 among 385 teams – Entrepreat Season-2: Crafting Visions Developed a feasible and sustainable business canvas model for our Git and Jenkins integrated freelancing startup [Case solution] [Finalist] | 2021 |
| | <input type="checkbox"/> Top 500 – Google Android App Developer Challenge Engineered a countdown timer app on <i>Android Studio</i> with <i>Jetpack Compose Beta</i> using Kotlin language [Source Code] [Google swags] | 2021 |
| | <input type="checkbox"/> Global Champion – Smart Roads Hackathon 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> [Project Page] | 2021 |
| | <input type="checkbox"/> Winner – ISCEA Ptak Prize Global SCM Case Competition 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> [Case solution] [Certificate] | 2020 |
| | <input type="checkbox"/> Champion – CS50x Puzzle Day (Fall) – Harvard University Spearheaded a 4-person international team (Bangladesh, UK, Pakistan, and Mexico) and solved advanced 8/8 puzzles [Certificate] | 2020 |
| | <input type="checkbox"/> Gold Honor – Ranked top 3% – IAAC <i>International Astronomy & Astrophysics Competition</i> [Solution][Final round certificate] | 2020 |
| | <input type="checkbox"/> Champion – CS50x Puzzle Day (Spring) – Harvard University Led a 3-person international team by fostering diversity & inclusion (Bangladesh, Brazil, and India) and solved advanced 8/8 puzzles [Certificate] | 2020 |
| | <input type="checkbox"/> International Asteroid Search Collaboration – NASA Administered a 4-person team and discovered 2 main belt asteroids by analyzing Pan-STARRS images using <i>Astrometrica</i> software [Certificate] | 2020 |
| | <input type="checkbox"/> Gold Honor – Ranked top 5% – IYMC <i>International Youth Math Challenge</i> [Solution][Final round certificate] | 2019 |
| | <input type="checkbox"/> Government Board Merit-based Scholarship (x4) 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 | 2010 – 2018 |
| Teaching Experience | Intro to Programming with Python <i>Mini-Course Teacher, OIST, Japan</i> ◊ Topics covered: Intro, Anaconda, variables, lists, strings, control structures [Course materials & details] ◊ Fellow Teachers: Dr. Nicholas Wardhana and Dr. Jeremie Gillet | Jan 2022 |
| Tutorials | Operations Research - Developed and presented the first-ever comprehensive Bengali online tutorials on Operations Research topics, facilitating 3rd-year IPE students. - Topics covered: Simplex Method, Two-Phase, Big M, Graphical Sensitivity Analysis, TORA. [YouTube Playlist] - Reference book: “Operations Research – An Introduction” by Professor Hamdy A. Taha. | Jan 2023 |
| Leadership & | KUET Research Society | <i>Oct 2023 – May 2024</i> |

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| Advisory Roles | <i>Co-founder & President</i> | <ul style="list-style-type: none"> • Served as an Executive Committee Member and President of the Industrial Engineering and Management Unit • Supervising (as an alumnus) 6 groups of research students concentrating on ML-DL and computational fuzzy logic, fostering cross-departmental research collaboration • Teaching (as an alumnus) scientific research methodology, research ethics, and journal article formatting, meeting publication criteria, and acquiring funding for publications |
| | USC CS Undergraduate Mentorship Program (Fall 2025) | <i>Oct 2025 – Present</i> |
| | <i>Graduate Mentor</i> | <ul style="list-style-type: none"> • Mentoring 2 undergraduate CS students at USC on research preparation, course planning, and pathways to graduate study through recurring one-on-one advising • Advising on faculty outreach, independent skill development, and research-focused internships and REU opportunities |
| Professional Service | Peer Reviewer | <i>Jul 2023 – Present</i> |
| | <p>Reviewed for 1 conference, 3 workshops, and 14 journals verified by Web of Science as of January 27, 2026 [WoS ResearcherID]</p> <ul style="list-style-type: none"> <input type="checkbox"/> PLOS One <input type="checkbox"/> Quantum Machine Intelligence (Springer Nature) <input type="checkbox"/> Information Systems (Elsevier) <input type="checkbox"/> IEEE Transactions on Biomedical Engineering <input type="checkbox"/> ICML 2025 Workshops: LXAI, AIW, DataWorld <input type="checkbox"/> IEEE Transactions on Systems, Man and Cybernetics: Systems <input type="checkbox"/> Scientific Reports (Nature Portfolio) <input type="checkbox"/> ACM Transactions on Intelligent Systems and Technology <input type="checkbox"/> Expert Systems with Applications (Elsevier) <input type="checkbox"/> IEEE Access <input type="checkbox"/> Neural Networks (Elsevier) <input type="checkbox"/> Computers & Industrial Engineering (Elsevier) <input type="checkbox"/> Multimedia Tools and Applications (Springer Nature) <input type="checkbox"/> Engineering Applications of Artificial Intelligence (Elsevier) <input type="checkbox"/> The Journal of Supercomputing (Springer Nature) <input type="checkbox"/> Cluster Computing (Springer Nature) <input type="checkbox"/> Journal of Contemporary African Studies (Taylor & Francis) <input type="checkbox"/> Journal of Multidisciplinary Healthcare (Taylor & Francis) <input type="checkbox"/> 7th European Conference on Industrial Engineering and Operations Management (Augsburg, Germany, July 2024) | |
| Professional Memberships | <ul style="list-style-type: none"> † ACM Student Member (USC ACM Chapter) [mjahn@acm.org] [Website] † IEEE Graduate Student Member [Member # 96981120, Coastal Los Angeles Section] † IEEE Computational Intelligence Society Member † Quantum Technical Community, IEEE Computer Society † IEEE Communications Society Member † IEEE Young Professionals | <i>Aug 2025 – Present</i> <i>Sep 2025 – Present</i> |
| Skills | Programming | <p><i>Advanced and Proficient in:</i> Python, C/C++, R, SQL, SAS, Data Structure and Algorithm, Object Oriented Programming <i>Familiar with:</i> Kotlin</p> |
| | 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: L ^A T _E X, 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, IsraelIX: [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 \(AI\)](#)