

Md Abrar Jahin, CSCATM

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Citizenship: Bangladesh

[GitHub](#)

[LinkedIn](#)

[Personal Website](#)

[Google Scholar](#)

[ResearchGate](#)

[ORCID](#)

Education

University of Southern California

Ph.D. in Computer Science

- USC Graduate 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

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 [[The-sis Presentation](#)] [Supervisor: [Dr. Md. Saiful Islam](#)]
- Developed the first-ever LaTeX template for B.Sc. Undergrad Thesis of KUET [[Template](#)]
- [Google Knowledge Panel](#) of Md Abrar Jahin

Khulna, Bangladesh

Nov 2018 – Mar 2024

Research Interests

- † Efficient Deep Learning (DL)
 - *Geometric & Spiking Neural Networks, Kolmogorov-Arnold Networks (KAN), Physics-informed Neural Networks (PINN)*
- † Quantum Computing
 - *Quantum Machine Learning (QML)*
- † Trustworthy AI
 - *Explainable AI (XAI)*
 - *Uncertainty Quantification*
 - ◇ *Conformal Prediction*
- † Self-Supervised Learning (SSL)
 - *Contrastive Learning*
- † Reinforcement Learning (RL)
 - *Inverse RL, Imitation Learning*
- † Natural Language Processing (NLP)
 - *Sentiment Analysis*

Research Experiences

❖ Lead Researcher

Mar 2023 – Present

Advanced Machine Intelligence Research Lab (AMIRL), American International University-Bangladesh (AIUB)

Roles: Research Assistant (Mar 2023 - Dec 2023), Researcher (Dec 2023 - Feb 2024), Lead Researcher (May 2024 - Present)

Research Affiliations:

- ◆ Department of Natural Language Processing and Computational Linguistics
Supervisor: [Prof. M. F. Mridha](#) (Professor, Dept. of CS, AIUB)
- ◆ Collaborators: [Prof. R. Simon Sherratt](#) (IEEE Fellow), [Prof. Nilanjan Dey](#), [Prof. Jungpil Shin](#), [Prof. Yuichi Okuyama](#), [Prof. Zeyar Aung](#), [Prof. Yutaka Watanobe](#), [Prof. Md. Rashedul Islam](#)
 - Published **6 WoS Q1** journal articles and **1 CORE ranked** conference article, and 14 are under review in Q1 journals (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; MASc 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 (taxable) [[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 144 citations according to Google Scholar as of June 23, 2025 ([h-index = 7](#), [i10-index = 6](#))

* Denotes co-first authorship.

Journal Articles

- [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. 
- [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-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-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-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-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-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-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-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-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(66). 

Under-Review Journal/Conference Articles

- [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*. 
- [U-2] **Jahin, M. A.**, Naife, S. A., Lima, F. T. J., Mridha, M. F., & Shin, J. (2025). Analyzing Male Domestic Violence through Exploratory Data Analysis and Explainable Machine Learning Insights. Under review at *AI & Society*. 
- [U-3] Rahman, M. M. *, **Jahin, M. A. ***, Islam, M. S., & Mridha, M. F. (2024). 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-4] **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 Artificial Intelligence*. 
- [U-5] **Jahin, M. A.**, Masud, M. A., Mridha, M. F., Aung, Z., & Dey, N. (2024). KACQ-DCNN: Uncertainty-Aware Interpretable Kolmogorov-Arnold Classical-Quantum Dual-Channel Neural Network for Heart Disease Detection. Under review at *Computers in Biology and Medicine*. 
- [U-6] 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-7] 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-8] 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 *Information Sciences*. 
- [U-9] 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-10] **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-11] **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 *IEEE Access*. 
- [U-12] **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 *NeurIPS 2025 [CORE A*]*. 
- [U-13] **Jahin, M. A.**, Soudeep, S., Mridha, M. F., & Aung, Z. (2025). Physics-Informed Graph Neural Networks for Transverse Momentum Estimation in CMS Trigger Systems. Under review at *NeurIPS 2025 [CORE A*]*. 
- [U-14] **Jahin, M. A.**, Soudeep, S., Mridha, M. F., Fahad, N., & Hossen, M. J. (2025). DyCAF-Net: Dynamic Class-Aware Fusion Network. Under review at *IEEE DSAA 2025 [CORE A]*. 
- [U-15] **Jahin, M. A.**, Soudeep, S., Mridha, M. F., Fahad, N., & Hossen, M. J. (2025). AdeptHEQ-FL: Adaptive Homomorphic Encryption for Federated Learning of Hybrid Classical-Quantum Models with Dynamic Layer Sparing. Under review at *1st International Workshop on Biomedical Image and Signal Computing for Unbiasedness, Interpretability, and Trustworthiness (ICCV BUSCUIT 2025) [CORE A*]*. 

Conferences

- [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)*, Ferrara, Emilia-Romagna, Italy. [\[Poster\]](#)

- [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)**, Virtual. [[Poster](#)]
- [C-3] **Jahin, M. A.***, Soudeep, S.*, Mridha, M. F., Kabir, R., Islam, M. R., & Watanobe, Y. (2025, July 1-4). *CAGN-GAT Fusion: A Hybrid Contrastive Attentive Graph Neural Network for Network Intrusion Detection* [Conference session]. **38th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE 2025)** [[CORE C](#)], Kitakyushu, Japan. [[📄](#)]
- [C-4] **Jahin, M. A.**, Soudeep, S., Aditta, A. R., Mridha, M. F., Fahad, N., Hossen, M. J. (2025, August 16). *Vision Transformers for End-to-End Quark-Gluon Jet Classification from Calorimeter Images* [Poster Presentation]. **Third International Workshop on Generalizing from Limited Resources in the Open World Workshop at International Joint Conference on Artificial Intelligence (IJCAI) 2025** [[CORE A*](#)], Montreal, Canada. [[📄](#)]

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] & [U-3] – <i>Research Sponsor</i> : Prof. Jungpil Shin | 2023 – 2024 |
| [2] Khalifa University (UAE) (×2) for [U-6] & [U-7] – <i>Research Sponsor</i> : Prof. Zeyar Aung | 2024 – Present |
| [3] OIST (Japan) (×1) for [U-5] – <i>Role</i> : Visiting Researcher | 2024 – Present |
| [4] University of Aizu (Japan) (×1) for [J-7] – <i>Research Sponsor</i> : Prof. Yutaka Watanobe | 2024 |

Honors and Scholarships

- Champion – CS50x Puzzle Day – Harvard University – Meta** 2025
Led a 4-person international team by fostering diversity & inclusion (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 by fostering diversity & inclusion (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 ≥ 3.75 out of 4.00 in three consecutive years of undergraduate classes [[Certificate](#)]
- NASA Space Apps Challenge – Global Nominee** 2023
Led a 5-person team and forecast geomagnetic storms using hybrid deep neural networks from satellite data – [[Project](#)] [[30 seconds of glory video](#)]
- Finalist – HONDA Y-E-S (Young Engineer and Scientist’s) Award 2022** 2023
Awarded for being among the top 15 Bangladeshi young engineering undergrad student scientists [[Award & certificate](#)]
- Junior Research Fellowship – Bangladesh Space Research and Remote Sensing Organization** 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” [[Project nomination](#)] [[Presentation video](#)]
- Qiskit Gold Level Translator – English to Bengali** 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 [[Certificate](#)]
- Top 6 among 385 teams – Entrepren Season-2: Crafting Visions** 2021
Developed a feasible and sustainable business canvas model for our Git and Jenkins integrated freelancing startup [[Case solution](#)] [[Finalist](#)]
- Top 500 – Google Android App Developer Challenge** 2021
Engineered a countdown timer app on *Android Studio* with *Jetpack Compose Beta* using Kotlin language [[Source Code](#)] [[Google swags](#)]
- Global Champion – Smart Roads Hackathon** 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 *UiT - The Arctic University of Norway* [[Project Page](#)]
- Winner – ISCEA Ptak Prize Global SCM Case Competition** 2020
Led a 4-person team and achieved 70% scholarship for completing the course for the professional certification titled *Certified Supply Chain Analyst (CSCA)* [[Case solution](#)] [[Certificate](#)]
- Champion – CS50x Puzzle Day (Fall) – Harvard University** 2020
Spearheaded a 4-person international team (Bangladesh, UK, Pakistan, and Mexico) and solved advanced 8/8 puzzles [[Certificate](#)]
- Gold Honor – Ranked top 3% – IAAC** 2020

	<p><i>International Astronomy & Astrophysics Competition</i> [Solution][Final round certificate] 2020</p> <p>Champion – CS50x Puzzle Day (Spring) – Harvard University</p> <p>Led a 3-person international team by fostering diversity & inclusion (Bangladesh, Brazil, and India) and solved advanced 8/8 puzzles [Certificate]</p> <p>International Asteroid Search Collaboration – NASA 2020</p> <p>Administered a 4-person team and discovered 2 main belt asteroids by analyzing Pan-STARRS images using <i>Astrometrica</i> software [Certificate]</p> <p>Gold Honor – Ranked top 5% – IYMC 2019</p> <p><i>International Youth Math Challenge</i> [Solution][Final round certificate]</p> <p>Government Board Merit-based Scholarship (x4) 2010 – 2018</p> <p>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>Intro to Programming with Python Jan 2022</p> <p><i>Mini-Course Teacher, OIST, Japan</i></p> <ul style="list-style-type: none"> Topics covered: Intro, Anaconda, variables, lists, strings, control structures [Course materials & details] Fellow Teachers: Dr. Nicholas Wardhana and Dr. Jeremie Gillet
Tutorials	<p>Operations Research Jan 2023</p> <ul style="list-style-type: none"> - 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.
Leadership & Advisory Roles	<p>KUET Research Society Oct 2023 – May 2024</p> <p><i>Co-founder & President</i></p> <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
Professional Service	<p>Peer Reviewer Jul 2023 – Present</p> <p>Reviewed for 1 conference, 3 workshops, and 13 journals verified by Web of Science as of June 23, 2025 [WoS Re-searcherID]</p> <ul style="list-style-type: none"> □ ICML 2025 Workshop LXAI (4) □ ICML 2025 Workshop AIW (3) □ ICML 2025 Workshop DataWorld (3) □ IEEE Transactions on Systems, Man and Cybernetics: Systems (1) □ Scientific Reports (Nature Portfolio) (1) □ ACM Transactions on Intelligent Systems and Technology (1) □ Expert Systems with Applications (Elsevier) (1) □ IEEE Access (5) □ Neural Networks (Elsevier) (1) □ Computers & Industrial Engineering (Elsevier) (1) □ Multimedia Tools and Applications (Springer Nature) (2) □ Engineering Applications of Artificial Intelligence (Elsevier) (2) □ The Journal of Supercomputing (Springer Nature) (1) □ Cluster Computing (Springer Nature) (1) □ Journal of Contemporary African Studies (Taylor & Francis) (1) □ Journal of Multidisciplinary Healthcare (Taylor & Francis) (1) □ 7th European Conference on Industrial Engineering and Operations Management (Augsburg, Germany, July 2024) (5)
Skills	<p>Programming</p> <p><i>Advanced and Proficient in:</i> Python, C/C++, R, SQL, SAS, Data Structure and Algorithm, Object Oriented Programming</p> <p><i>Familiar with:</i> Kotlin</p> <p>Machine Learning: Classical Deep Learning, Quantum Machine Learning (Qiskit, PennyLane, TorchQuantum), XAI, NLP, DASK: Parallel Computing, Tensorflow, Keras, PyTorch, IBM Watson</p> <p>Data Analysis and Optimization: Microsoft Excel, IBM SPSS, Minitab, TORA, Gurobi, Beautiful Soup, Biopython, Bioconductor, NetworkX, OpenCV</p> <p>High-Performance Scientific Computing: Deigo & Saion Cluster (OIST)</p> <p>Operating System: Linux, Unix, Windows</p> <p>Version Control: Git Bash, Github, GitLab</p>

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^AT_EX, Microsoft Word

Languages: Bengali (Native), Hindi, English (IELTS Overall Score: 7.0, R: 7.5, W: 7.0, L: 6.5, S: 6.5)

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 \(AI\)](#)