NOOR ISLAM S. MOHAMMAD | M.Sc. | ISTANBUL TECHNICAL UNIVERSITY | www.nislam.it.com

⌂ *Topkapı Mah. Kah. SK. 3, Fatih/İstanbul, 43093.* 📞 *+90-543-214-2967* ✉ *islam.m@nyu.edu*

Research interests: Human Computer Interaction|Explainable & Responsible AI | Deep Learning| Pattern Recognition

EDUCATION

Istanbul Technical University, **M.Sc. Computer Science** **(2024 – 2026)**
<u>*Research group*</u>: ***Signal Processing for Computational Intelligence Research*** **GPA: 3.3/4.0**
Keywords: computational intelligence applications, computer vision, signal processing, image processing, environmental monitoring to multi-modal surveillance, from bio-image analysis to remote sensing. https://spacing.itu.edu.tr/
  <u>**M.Sc. Thesis:**</u> **Toxic Comment Detection Using High Dimensional Feature Extraction and Artificial Neural Networks***.*
  <u>Advisor:</u> Prof. Dr. Enver Özdemir; <u>Co-advisor:</u> Prof. Dr. Süha Tuna

University of the People, California, **B.Sc. Computer Science** **(2020 – 2023)**
  <u>*Award:*</u> *I graduated with the Honor List and placed 4th on the Dean's List Award for having a high CGPA in the semester-end terms.* **GPA: 3.13 / 4.0**
  <u>*Keynote:*</u> *UoPeople is accredited by WASC Senior College and University Commission (WSCUC), 1080 Marina Village Parkway, Suite 500, Alameda, CA 94501, 510.748.9001. www.wscuc.org*

ACADEMIC QUALIFICATION

22 Undergraduate Credits, ***American Council on Education (ACE)*** [Washington DC, 20036; in 2021-2023]
Passed with Distinction: Bridge Computer Science, ***NYU Tandon School of Engineering*** [Spring, 2024, 2025]
<u>*Keywords:*</u> **Discrete Mathematics, Data Structures, Algorithms and Principle of Operating Systems.**

PROFESSIONAL EXPERIENCES

Founder & CEO | Cyforb AI (www.cyforb.com) **SELF-EMPLOYMENT**
<u>*Keywords:*</u> *U.S.-ASEAN Science, Technology, and Innovation Cooperation (STIC) Program is one of the top startup projects selected.*
- Develops AI solutions to solve real-world industry challenges.
- Optimizes business processes with machine learning and advanced algorithms.
- Enhances decision-making through AI-driven automation and analytics.
- Drives innovation across industries with intelligent technology solutions.

Founder & Managing Director | RolarX (www.rolarx.com) **SELF-EMPLOYMENT**
<u>*Keywords:*</u> **BeVisioneers: The Mercedes-Benz Fellowship** *Finalized 2025–2026 cohort among 1000 global innovators in Germany (EU).*
- RolarX is a greener, more sustainable future through Responsible Environmental Technology.
- Innovates and delivers eco-friendly solutions to advance sustainability and clean energy.
- Bridges technology and sustainability to protect the planet for future generations.
- Dedicated to driving positive environmental impact with cutting-edge green technology.

Graduate Research Assistant | Istanbul Technical University **AY 2024 – 2026 FULL-TIME**
<u>*Keywords:*</u> **National Center for High Performance Computing (UHeM Lab)**
- Conducted literature reviews and synthesized research findings Designed and executed research projects with faculty collaboration and collaborated on interdisciplinary research to ensure ethical compliance in all research activities
- Collected, analyzed, and interpreted quantitative and qualitative data Used statistical tools for data analysis and report generation
- Assisted in research proposals and grant applications Presented findings at conferences, workshops, and seminars and Managed research materials, databases, and documentation

Graduate Teaching Assistant | Istanbul Technical University **FALL SEMESTER 2024-2025**
<u>*Courses:*</u> *Fall: BLG 551E (Human Computer Interfaces); Spring: BBL 514E (Pattern Recognition & Analysis)*
- Assisted in course instruction, grading assignments, and mentoring students.
- Led tutorial sessions, lab exercises, and discussion groups (Project Proposal).
- Provided individualized support during office hours to enhance student learning.
- Developed instructional materials and assessments in collaboration with faculty.
- Evaluated student performance and provided constructive feedback further improve.

EVENT MANAGER | (TR) HEAVY INDUSTRIES TAXILA (H.I.T) **OCT 01, 2024 – DEC 30, 2024**
- Coordinated and executed industry conferences, managing logistics, speakers, and stakeholder communication.
- Ensured seamless event operations, fostering professional collaborations.
- Utilized strong organizational, communication, and problem-solving skills for high-profile events.

MANAGEMENT STAFF | SAHA ISTANBUL (TR) **INTENSHIP OCT 2024 – OCT 2024**
- Organized high-profile conferences and delegation events at SAHA EXPO Istanbul.
- Facilitated networking and knowledge exchange within the aerospace and defense sectors.
- Managed event logistics and coordinated with international stakeholders.
- Strengthened diplomatic relations through strategic engagement and industry partnerships.

INTERNATIONAL PLUS | ISTANBUL, TR – SALES ADVOCATE **PART-TIME MAY 2024 – JUN 2024**

- Built strong client relationships to deliver tailored solutions and foster long-term partnerships.
- Executed sales strategies to drive revenue growth and expand market reach.
- Communicated product value propositions with in-depth industry knowledge.
- Enhanced customer satisfaction and retention through personalized support.
- Conducted market research to identify trends and support strategic planning.

DFTI | BD (HYBRID) – PROJECT MANAGEMENT INTERN   CONTACT: OCT 2022 – MAR 2023
- Developed curriculum, company policies, and technology strategies
- Maintained a strong tech infrastructure, ensuring data privacy and security
- Aligned technology roadmaps with business strategy
- Designed scalable, secure, and reliable network infrastructure
- Researched and implemented innovative technologies

MICROSOFT | (USA) RESEARCH INTERN   MAY 2023 - JUL 2023
- Research Intern at Microsoft, contributing to cutting-edge innovations.
- Developed and optimized AI/ML models using Azure cloud technologies.
- Engineered scalable solutions leveraging Microsoft's advanced research tools.
- Collaborated with top researchers to drive breakthroughs in emerging technologies.
- Published findings, presented research, and influenced product development.
- Applied data-driven insights to solve complex real-world challenges.
  - Soft Skills: Community Building, Cooperation, Communication, Organization skills

BRAC | (BD) RESEARCH & DEVELOPMENT ASSOCIATE   PART-TIME: JUNE 2020 - AUGUST 2022
- Delivered 17+ projects with high client satisfaction
- Led large-scale curriculum development and research advancements
- Key contributor to curriculum design and innovation
- Only senior researcher to secure a paid part-time leadership role

BRAC | BD (HYBRID) – TRAING SPECIALIST   PART-TIME: JUN 2021 – DEC 2021
- Designed and implemented in-person and virtual training programs.
- Developed curricula covering skills, compliance, and professional growth.
- Strengthened staff capacity through targeted training initiatives.
- Assessed and improved training effectiveness through feedback.

BRAC | BD (HYBRID) – MENTAL HEALTH COUNSELOR   PART-TIME: JUN 2019 – JUN 2021
- Provided in-person and virtual mental health counseling.
- Conducted assessments and developed personalized treatment plans.
- Led community outreach to promote mental health awareness.
- Delivered crisis intervention and immediate support.
- Collaborated with multidisciplinary teams for holistic client care.

RELIEF INTERNATIONAL | (BD) TEAM LEADER   PART-TIME: NOV 5, 2018– MAR 28, 2019
- Translated reports, proposals, and presentations on development projects
- Ensured accurate and culturally appropriate English-Bengali translations
- Collaborated with teams for timely, high-quality works report to Case Management officer
- Localized training materials for community education and work training to the team

ACADEMIC PROJECTS_____

FALL SEMESTER COMPLETED COURSES PROJECTS 2024
1. *HCI-2.0 Ethical and Explainable Generative AI (GenAI)*   *Fall (Oct–Dec 2024)*
   Keywords: Human Computer Interfaces, User-centered Design, Cognitive Walkthrough
2. *Sensing Cloud Computing in IoT: A Novel Data Scheduling Optimization Algorithm*   *Fall (Oct–Dec 2024)*
   Keywords: Data scheduling, sensing cloud computing, IoT, data scheduling, smart optimization algorithms.
3. *Federated Learning (FL): Revolutionizing Privacy-Preserving AI*   *Fall (Oct–Dec 2024)*
   Keywords: Transforming industries, healthcare, finance, and IoT, where data sensitivity is paramount.
4. *Uncertainty in Deep Learning Neural Network Adversarial Machine Learning*   *Fall (Oct–Dec 2024)*
   Keywords: DL, CNNs, Fast Gradient Sign Method (FGSM), (BIM), Fashion MNIST dataset, benchmark for image classification tasks.

CURRENT ONGOING COURSES PROJECTS ON SPRING SEMESTER 2025
5. *Exploring Depth Estimation Algorithms with Light Fields for Image Segmentation*   *Spring (Feb–2025)*
   Keywords: 4D Light Field Benchmark dataset to contrast depth maps of three algorithms with the ground truth depth map of the benchmark.
6. *AI-Driven Anomaly Detection for Real-Time Cyberthreat Identification in Wireless Networks*   *Spring (2025)*
   Keywords: Precision, Recall, Neural Networks, KNN, SVM, decision trees, XGBoost, Datasets (CIC-IDS-2017, UNSW-NB15, DARPA)

SKILLS_____

Programming: Python, C++, MATLAB, JAVA, LATEX   **GPU Programming**: OpenGL, CUDA   **Deep Learning**: PyTorch, TensorFlow
Relevant courses: Deep Learning (vision), Deep Learning (NLP), Machine Learning, AI, Optimization, Image Processing

VOLUNTEERING EXPERIENCES_____
Microsoft Learn Student Ambassador / Microsoft
- Built a technical community through skill development and problem-solving
- Fostered innovation, creativity, and diverse perspectives for career growth
- Organized brainstorming sessions and career-building initiatives
- Helped students succeed through technical and non-technical events
- Supported hiring top talent by developing essential skills

Team Lead (Citizen Scientist) : IASC-NASA   **March 5, 2021-March 30, 2021**
- A global citizen science program offering free astronomical data
- Empowers students to make original astronomical discoveries
- IASC Asteroid Search Program operates worldwide
- Encourages discovering celestial bodies and near-Earth objects

EXTRACURRICULAR ACTIVITIES_____

Microsoft Technologist Sponsored | Microsoft   **14 to 24 August 2022**
- Served as a Technology Specialist at Microsoft for Hack the North.
- Provided technical expertise and mentorship to global hackathon participants.
- Supported teams in developing innovative software and hardware solutions.
- Engaged in a high-paced, collaborative environment to drive technological creativity.

Hackathon Assistant | Hack the North & MIT   **14 to 24 August 2021**
- Assisted in organizing and supporting Hack the North and Hack MIT hackathons.
- Provided mentorship and technical guidance to participants developing innovative projects.
- Facilitated workshops, troubleshooting, and collaboration in a high-energy environment.
- Contributed to the success of large-scale hackathons by ensuring smooth operations.

Summer Workshop | MIT   **14 to 24 August 2024**
- Participated in the MIT Game Lab EDGE Summer Workshop, focusing on engineering, design, games, and entrepreneurship.
- Gained hands-on experience in game development, interactive media, and innovative design strategies.
- Collaborated with industry experts and peers to explore cutting-edge technologies in gaming.
- Developed problem-solving and creative skills through intensive project-based learning.

MEMBERSHIP_____

Membership | International Institute for Astronautical Sciences (*IIAS*)   **Feb 1st, 2022, Continue**
1920 Research Private, Ottawa, ON K1V 1J8, Canada
- Trained in astronautics, space science, and microgravity research
- Conducted R&D on advanced aerospace technologies
- Collaborated globally and contributed to scientific publications
- Skilled in EVA operations and space mission design
- Attended international conferences and promoted STEM education

Membership | HONOR Society   **Jan 23, 2024, Continue**
1025 Connecticut Ave NW Ste 1000, Washington, DC 20036
- Recognized for academic excellence and leadership
- Engaged in professional development and training
- Participated in community service and networking
- Attended exclusive career events and seminars
- Contributed to society's newsletter and publications

CONFERENCES AND SEMINARS_____
- *Webinar on Ethical Hacking Seminar (Bangladesh University of Business and Technology)*
- *A Distributed Parallel Optimization for Addressing (IEEE, Bangladesh Chapter)*
- *Scalability and Privacy Issues of Energy Communities (IEEE, Bangladesh Chapter)*
- *MEMS Microfluidics for Bio-applications Seminar (IEEE, Bangladesh Chapter)*
- *Ethics of AI in Society: Ensuring inclusion in the AI world (Microsoft)*
- *Startup for Social and Entrepreneurship Conference (US Asian STIC)*
- *Creative AI Cultural Influence Conference (Young Southeast Asian Leaders Initiative (YSEALI))*
- *Emerging technologies Cybersecurity and ML application (Microsoft) [Talk]*
- *Comparative Programming and Microsoft Azure Services (Microsoft) [Talk]*
- *AI in Society and Azure Intelligence Services (Microsoft) [Talk]*
- *Aerospace and Astronautical Conference (Istanbul Technical University)*
- *Next TRT World Forum 2024 Conference (Zorlu Center, Istanbul)*
- *The Community Development and Sustainability Conference (Zorlu Center, Istanbul)*

HONOURS AND AWARDS_____
- *Gold Microsoft Learn Student Ambassador Award in 2024, Issued by Microsoft · Aug 2024*
- *Fulbright Graduate Scholarship Award, Issued by YTB, Türkiye Government Scholarship · Aug 2023*
- *Fourth-time Academic Honor and Dean List Award, Issued by the University of the People, CA, USA*
- *National Honors Society Membership Award, Issued by Hornor Society.Org · Jan 23, 2024*
- *Certificate of Recognition Citizen Science group, Issued by IASC, NASA, Mar 30, 2021*
- *$2000 CORe Program Income-based Granted, Issued by Harvard Business School Online · May 2024*
- *Top Startup Concept Project, Issued by US STIC, Arizona State University, May 2024*
- *Certificate of Recognition Employment in Good Faith, Issued by BRAC/UNHCR · Dec 2022*
- *Certificate of Recognition Employment in Good Faith, Issued by Relief International · Mar 2019*

ACCOMPLISHMENTS_____
- *Olympiad English Score: 8.77 among total number of test-takers: 8817*

- National rank: 314. Southeast Asia rank: 5156
- The World Science Math Olympiad Score: 70/100 TÜBİTAK

OPEN-PROBLEM SOLVED PERSONAL PROJECTS_____

1. **Percolation:** *Percolation theory models connectivity in disordered systems. A composite conducts when the metallic fraction exceeds a critical threshold. Similarly, fluids flow in porous media when pathways connect across the material. [[Link](#)]*

2. **Deques and Randomized Queues:** *The assignment focuses on implementing fundamental data structures using arrays and linked lists while introducing generics and iterators. A **deque** (double-ended queue) extends stacks and queues, allowing insertion and removal from both ends. [[Link](#)]*

3. **Collinear Points:** *Computer vision analyzes visual patterns to reconstruct real-world objects. It involves **feature detection** (identifying key image features) and **pattern recognition** (finding patterns in those features). A common application is detecting points and line segments, useful in statistical data analysis and beyond. [[Link](#)]*

4. **8 Puzzle:** *The **8-puzzle** is a sliding puzzle on a 3×3 grid with 8 numbered tiles and one blank space. The goal is to arrange tiles in row-major order using the fewest moves by sliding tiles horizontally or vertically into the blank space. [[Link](#)]*

5. **Kd-Trees:** *A **2D-tree** represents a set of points in a unit square [0,1]×[0,1], enabling efficient **range search** (finding points in a query rectangle) and **nearest-neighbor search** (finding the closest point). Applications include astronomy, animation, neural networks, data mining, and image retrieval. [[Link](#)]*

6. **WordNet: WordNet** *is a semantic lexicon for English, widely used in computational linguistics and AI. It organizes words into **synsets** (sets of synonyms) to represent concepts, aiding applications like IBM's Watson in natural language processing. [[Link](#)]*

7. **Seam Carving**: ***Seam-carving** is a content-aware image resizing technique that removes one pixel at a time. A **vertical seam** connects top to bottom with one pixel per row, while a **horizontal seam** connects left to right with one pixel per column. [[Link](#)]*

8. **Baseball Elimination**: *The **baseball elimination problem** determines which of **n** teams can no longer finish first. Each team **i** has **w[i]** wins, **l[i]** losses, **r[i]** remaining games, and **g[i][j]** games left against team **j**. A team is **mathematically eliminated** if it cannot reach or tie for first place. [[Link](#)]*

9. **The Boggle Game. Boggle** *is a word game by Allan Turoff, distributed by Hasbro. It uses **16 cubic dice** in a **4×4 grid**, each showing a random letter. Players score points by forming valid words, following specific rules. The players compete to accumulate points by building valid words from the dice. [[Link](#)]*

10. **Burrows-Wheeler:** *The **Burrows-Wheeler compression algorithm** has three steps: **Burrows-Wheeler Transform** – Rearranges text so repeated characters cluster together. **Move-to-Front Encoding** – Converts repeated sequences to increase character frequency. **Huffman Compression** – Encodes frequent characters with short codes for efficient compression. [[Link](#)]*

11. **Cybersecurity Capstone: Breach Response Case Studies** *– Analyzes real-world cybersecurity breaches to assess response strategies, effectiveness, and areas for improvement, highlighting best practices and pitfalls. **Dual Priority Scheduling in Litmus-RT** – Explores DP scheduling within the Litmus-RT framework to enhance real-time system performance. [[Link](#)]*

12. **Fundamentals of Computer Vision and Image Processing:** *OpenCV is an open-source computer vision and machine learning library. **Computer Vision** enables computers to interpret and analyze visual data, extracting meaningful information from images or video. [[GitHub](#)]*

FIRST & CO-AUTHOR PUBLICATIONS_____

2. *The design of a software fault prone application using evolutionary algorithm*
3. *Prevalence, identification and antibiotic susceptibility of Enterococcus Species isolated from chicken and pigeon meat in Gazipur area of Bangladesh*
4. *Stability and vibration analysis of a tractor-mounted Chinese cabbage collector*
5. *Working speed analysis of the gear-driven dibbling mechanism of a 2.6 kW walking-type automatic pepper transplanter. Machines 9 (1): 6*
6. *Analysis of power requirement of a prototype four-wheeled electric vehicle under different off-road conditions*
8. *An empirical investigation on the nature of corrupt practices at the grassroots level in Bangladesh: a way forward for environmental sustainability*
9. *Need to implement the Communication Technology Law and Policy to protect the human rights in Bangladesh: An approach for sustainable development*
13. *Potential of impact-based weight sensing of individual Chinese cabbage for real-time yield monitoring*
14. *Effect of gear design on the power transmission unit of a small-sized multipurpose agricultural utility vehicle*
15. *Stress and fatigue analysis of the hydraulic motor shaft and conveyor joints of a tractor-mounted Chinese cabbage collector*
16. *The Study of Child Abuse: Psychological Human Brain Functional Development and Interconnection Theta Brain Waves Analysis*
17. *A low-error, memory-based fast binary antilogarithmic converter*