Nushrat Jahan

- Birth date: 17/05/1999
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- https://nushrat-jahan.github.io/

Education

11/2025 – Present
PhD Candidate in Computer Science
Université de Montpellier, France
Thesis: **Hybrid prediction model for rheumatoid arthritis based on machine learning enriched with a dynamic ontology of the disease and the exposome (NEXUS INTEGRAAL)**
Laboratories: LIRMM / PhyMedExp
Supervisors: Prof. Sandra Bringay, Dr. Lylia Abrouk, Dr. Zübeyir Salis

09/2022 – 10/2024
Master in Computer Science track CPS2 (Cyber-Physical and Social Systems)
École des Mines de Saint-Étienne, Saint-Étienne, France

01/2018 – 08/2021
Bachelor Degree in Computer Science and Engineering
American International University-Bangladesh, Dhaka, Bangladesh
Graduation grade CGPA (Cumulative Grade Point Average): 4 out of 4

08/2015 – 12/2017
Higher Secondary School Diploma
National Ideal College, Dhaka, Bangladesh
Specialization: Science
Graduation grade GPA(Grade Point Average): 5 out of 5

01/2013 – 07/2015
Secondary School Diploma
Badda Alatunnessa High School, Dhaka, Bangladesh
Specialization: Science
Graduation grade GPA(Grade Point Average): 5 out of 5

Work Experience

09/2025 – 10/2025
Research Engineer
CNRS / Université Sorbonne Paris Nord (LIPN, IRIF, LMF), Villetaneuse, France
Project: *Project manager or software engineering expert (UMR7030-JAIARI-002)*
Fields of Activity: Software engineering, project management, model checking, verification
Work: Supporting research software such as IMITATOR, Cubicle, SPEN, Usuba, and CDuce; managing full software lifecycle, CI/CD integration, and cross-laboratory collaboration
Technologies: OCaml, C/C++, Python, Git, Docker, Linux

06/2025 – 08/2025
Research Engineer
Free University of Bozen-Bolzano, Bolzano, Italy
Project: *Evidence-based Climate Risk and Environmental Management (CRIMA) (link)*
Official Selection Result: Rector's Decree – First in Ranking List (link)
Fields of Activity: Ontology-based modeling, environmental risk assessment, data management

Work Experience (continued)

02/2024 – 08/2024   **Master 2 Internship**
École des Mines de Saint-Étienne, Saint-Étienne, France
Topic: *Developing ontology evaluation tool for assisting ontology reuse*
Department: ISI department
Laboratory of Informatics, Modelling and Optimization of the Systems - LIMOS
Fields of Activities Ontologies, semantic, energy data space
Publication: *A Proposed Ontology Evaluation Tool to Assist Ontology Engineers in Selecting Ontologies During the Reuse Phase*, published at *KGSWC-2024: Sixth International Knowledge Graph and Semantic Web Conference.* (Springer Link)

04/2023 – 08/2023   **Master 1 Internship**
Électricité de France (EDF), Saclay, Île-de-France, France
Topic: *SmartMTB: Policy-aware Data Exchange in Multi-tenantIoT-enhanced Buildings*
SEIDO Lab

11/2021 – 08/2022   **Officer, ESB and Service Integration**
BRAC Bank, Dhaka, Bangladesh
Worked as a developer to connect external APIs coming from companies with core internal APIs using SOAP. Used Postman, Oracle JDeveloper mostly for middleware development and testing.

04/2021 – 11/2021   **Software Engineer**
BJIT Limited, Dhaka, Bangladesh
Had training on scrum, AWS, blockchain and on AI. Then worked with edge AI in R&D department.

Professional Development & Language Learning

12/2024 – 05/2025   **Compétences de Base Professionnelles – French Language & Career Support**
Centre Factories Le Bourget, Mooveus, France
Attended a professional training program focused on improving French language skills and workplace communication.

Publications

2024   **A Proposed Ontology Evaluation Tool to Assist Ontology Engineers in Selecting Ontologies During the Reuse Phase** (link)
KGSWC-2024: Sixth International Knowledge Graph and Semantic Web Conference.
Introduces the OntoReuse tool, a comprehensive ontology evaluation framework integrating metrics for lexical, structural, FAIRness, and maturity assessment. The tool assists ontology engineers in selecting appropriate ontologies for reuse, validated through expert feedback and applied to energy data spaces.

2022   **An overview of Mobile Edge Computing in vehicle platooning** (link)
ICCA 22: Proceedings of the 2nd International Conference on Computing Advancements.
Engaged in cutting-edge research in the domain of Mobile Edge Computing (MEC), with a focus on task offloading in vehicle platooning. This work addresses the challenges posed by limited computing capacity of vehicle terminals, leveraging MEC to serve numerous devices and services with ultralow latency. Published in ACM Journal

Research Work

2024   **Compact Syntaxes for RDF Data Exchange between IoT Devices - An approach based on header compression (SCHC)**

The research explores how to shrink the size of data sent between IoT devices by using CBOR for data formatting and SCHC for squeezing data headers. This combo helps send less data over the network, saving bandwidth and energy, making things faster and more efficient in IoT systems. The study tests this method and shows that it effectively reduces data sizes, which could make IoT communications smoother and less costly in terms of energy and data transmission.

2022   **Audio or video data to text summarization using natural language processing**

Aim to generate text and audio summaries from video or audio data using the Huggingsound library. The process involves automatic speech recognition (ASR) for transcription and text summarization techniques to extract key information. The generated summaries can be used for efficient content consumption, accessibility, and media analysis.Colab link

2021   **Face Generation and Discrimination Using Generative Adversarial Network (GAN)**

Did an intensive research work on GAN analysis under the supervision of Dr. Debajyoti Karmaker, Assistant Professor, Computer Science, American International University–Bangladesh. Aim to prove it is possible to create random faces which doesn't exists in the real world using generative adversarial network (GAN).

Volunteer Work

10/01/2020 - 12/01/2020   **INTERNATIONAL CONFERENCE ON COMPUTING ADVANCEMENTS 2020 (ICCA 2020)**

American International University-Bangladesh (AIUB), Dhaka, Bangladesh

Volunteered at a major international Computer Science conference, facilitating sessions on Intelligent Systems, Blockchain Technology Trends, and Networking and Communications, bridging academia and industry.

🌐 https://icca.aiub.edu/2020/

Skills

Languages

Mother language	Bengali
Other languages	English, Level: C1
	French, Level: A2

Programming skills

Programming and Scripting Languages

Java	MicroPython	Kotlin
C	Python	Assembly
C#	PHP	OpenGL
C++	JavaScript	OCaml

Skills (continued)

Technologies and frameworks

Apache Jena Fuseki	React	SPARQL
Spring Boot	Angular	RDF/OWL
Laravel	Gradle	SHACL
.Net	Docker	PyTorch (for ML)
Git	Android	TensorFlow
Node.js	JaCaMo	Protégé
Vue.js	MySQL	PyKEEN

Other languages

XML, YAML, HTML, CSS, SCSS, Bootstrap, JSON, JSON-LD LaTeX, Markdown

Project

2024 **Food Delivery Discovery Service**

https://github.com/Nushrat-Jahan/FoodDeliveryDiscoveryService_SemWebProject

Subject: This Semantic Web project is a comprehensive and practical exercise in developing a food delivery discovery service that adheres to the principles of the Semantic Web, particularly focusing on Linked Data.

Multi-Agent System for Holiday Package Coordination and Contracting

https://github.com/Nushrat-Jahan/Multi-Agent-System-for-Holiday-Package-Coordination-and-Contracting

Subject: A holiday package (hp) combines services (accommodation, transport, tours, etc.) in one place, chosen by consumers. Consumers buy from tour operators, and services are provided in the package's defined order.

2023 **Electronics and Gadgets E-commerce site ontology**

https://github.com/Nushrat-Jahan/Electronics-and-Gadgets-E-commerce-Ontology

Subject: The ontology provided is designed for an Electronics and Gadgets E-commerce site. An ontology is a formal representation of concepts and their relationships within a particular domain. In this case, the ontology aims to define and organize the various electronic devices and gadgets that can be sold on the e-commerce site.

Multi-Drone-Coordination-for-Search-and-Rescue-Missions

https://github.com/Nushrat-Jahan/Multi-Drone-Coordination-for-Search-and-Rescue-Missions

Subject: Developed a sophisticated multi-agent drone system with collision avoidance for safer, coordinated missions, alongside a dynamic decision-making framework to enhance the efficiency of food and medication delivery to disaster survivors.

2022 **A building management application (Faircorp)**

https://github.com/Nushrat-Jahan/faircorp **(SpringBoot)**

https://github.com/Nushrat-Jahan/faircorp-vue **(Vue)**

https://github.com/Nushrat-Jahan/faircorp-android **(Android)**

Subject: Faircorp is a spring-based building management application featuring buildings, rooms, windows, and heaters. Buildings can have multiple or no rooms, which in turn may contain several or no windows and heaters. Buildings display their rooms, while rooms can show and control their windows and heaters, including adjusting the ON/OFF or OPEN/CLOSE status. This status can be modified using window or heater IDs. All elements are manageable through creation, viewing, updating, or deletion actions. Deleting a building or room automatically removes its associated rooms, windows, and heaters.

Awards and Acknowledgements

2023 **Summa Cum Laude Distinction**
American International University-Bangladesh (AIUB)
Awarded the highest academic honor upon completion of the Bachelor of Science in Computer Science & Engineering, in recognition of outstanding academic excellence. This distinction was conferred based on achieving a CGPA between 3.95 and 4.00, with no grade lower than 'B', no retakes, withdrawals, or disciplinary record. *(Information link)*

2019-2021 **DEAN'S LIST HONORS AWARD**
Faculty of Science and Technology, American International University-Bangladesh (AIUB), Dhaka, Bangladesh
Spring 2018-2019, Fall 2018-2019, Spring 2019-2020, Spring 2020-2021, & Fall 2020-2021
Received Dean's List honors Award twice during under graduation study period for excellent academic performance. *(Information link)*

28/11/2018 **First Place, Intra University Mathematics Olympiad**
American International University-Bangladesh (AIUB)
Achieved first place in a competitive field of students across the university in a rigorous mathematics competition covering a wide range of topics, including Set Theory, Calculus, Analytic Geometry, Linear Algebra, Trigonometry, and more. The contest tested abilities in advanced mathematical problem solving and quantitative reasoning, highlighting proficiency in a comprehensive mathematics syllabus.

2019 – 2021 **Academic Scholarship for Regular Students**
American International University-Bangladesh (AIUB)
Received for maintaining a CGPA of 3.75 or above across two regular semesters without any grades lower than 'B+', demonstrating consistent academic excellence during the undergraduate program. It includes a tuition fee waiver, contingent on meeting rigorous academic standards and availability of slots.

2019 **Merit-Based Scholarship for Freshman Students**
American International University-Bangladesh (AIUB)
Awarded for exceptional academic performance in SSC and HSC examinations, fulfilling the criteria of GPA 5.00 in both. Selected through a competitive scholarship exam to receive a tuition fee waiver as a freshman student.

Extracurricular Activities

2019 - 2021 **AIUB Computer Club (ACC)** | General Member
American International University-Bangladesh (AIUB)
Engaged in a community that celebrates technology and its advancements. Participated in major events such as CS Fest, Cyber Gaming Festival, and Jarvis – Intra ACC Carnival, contributing to ACC's reputation as one of the most inspiring clubs in AIUB.
🌐 https://aiubcc.org/

2019 - 2020 **AIUB Film Club (AFC)** | General Member
American International University-Bangladesh (AIUB)
Involved in creating short films and organizing film shows to promote culture through cinematography. Actively participated in workshops and film festivals, contributing to AFC's mission of fostering a filmmaking culture among students.
🌐 https://www.aiub.edu/oncampus/clubs/aiub-film-club

Extracurricular Activities (continued)

2019 - 2021   🔖 **AIUB Arts Club (AAC)** | General Member
American International University-Bangladesh (AIUB)
Participated in art workshops, competitions, and exhibitions, showcasing creativity in commemorating cultural events like International Mother Language Day and Bengali New Year. Contributed to AAC's goal of promoting artistic talents and fostering community spirit among students.
🌐 https://www.aiub.edu/oncampus/clubs/aac-in-aiub

Certifications and Participations

2024   🔖 **Winter School on Knowledge Graphs and Semantic Web Technologies** | Université Paris Cité, France | Participant

🔖 **E4C Fall School: Interdisciplinary Approaches for Future Smart Grids, France** | Fall School | Participant

🔖 **Summer School on AI Technologies for Trust, Interoperability, Autonomy and Resilience in Industry 4.0, France** | Summer School | Participant

🔖 **REGINNA 4.0 third Summer School: Deep Tech training on Industry 4.0, Artificial Intelligence, Nanotechnology and Entrepreneurship** | Summer School, Spain | Participant

2019   🔖 **IUT 10th ICT Fest** | Programming Contest | Participant

🔖 **BUP Techsurgence** | Math Olympiad | Participant

🔖 **Women's Mathematics Olympiad** | Dhaka University | Participant

2018   🔖 **Cisco Networking Academy – IT Essentials** | American International University-Bangladesh | Certified

🔖 **Robo Fiesta with GPH Ispat - Esho Robot Banai** | Robo Soccer | Participant

2014   🔖 **BAS Divisional Science Olympiad** | Bangladesh Academy of Sciences & Samakal | Participant