Tonmoy Roy

(435) 294-7900 • tonmoy.roy@usu.edu • linkedin.com/in/tonmoyroymis/

EDUCATION

Utah State University, Jon M. Huntsman School of Business   Logan, UT
Master of Management Information Systems (MMIS)   May 2024
- GPA: 4.00
- Non-resident Graduate Excellence

American International University – Bangladesh (AIUB)   Dhaka, Bangladesh
Bachelor in Business Administration: Major in Management Information Systems (MIS)   Jan 2020
- CGPA **3.99**
- Academic Honors: Summa Cum Laude, Student Rank 1/180, 2020, University Deans Awards
- Scholarships: National Merit Scholar, 2017, University Merit-based Freshman Scholarship, 2016, AIUB Academic Scholarship, 2016–2018
- Grants: Grant for the Immersion-Internship Program in Thailand, 2017

TOOLS

Languages: HTML, PHP, Python
Machine Learning: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Deep Learning, Evaluation and Model Selection, Feature Engineering, Natural Language Processing, Model Deployment, Time Series Analysis, Transfer Learning
Database Tools & Platforms: Relational Databases, MS Access, AWS, Web JSON API, Cloud9, Jupyter
Technologies: PowerBI, Sisense, Excel, MINITAB, STATA, Tableau, RapidMiner, SQL

PROFESSIONAL EXPERIENCE

Utah State University, Jon M. Huntsman School of Business   Logan, UT
Teaching Assistant, Data Analytics and Information Systems Department   May 2023 – Present
- Teaching Assistant (DATA-6060-IO1 Online MBA): Supported students in applying Microsoft PowerBI Desktop, RapidMiner, and other analytical tools to enhance data-driven decision-making skills while also grading assignments

Utah State University, Jon M. Huntsman School of Business   Logan, UT
Graduate Assistant, Data Analytics and Information Systems Department   Aug 2022 – Present
- Developed a breast cancer prediction model using Machine Learning and Deep Learning techniques, leveraging tools such as Python, TensorFlow, and scikit-learn
- Conducted analysis to determine the number of complaints for US states and counties, utilizing data visualization tools like Tableau and PowerBI
- Conducted data analysis on Student Loans data from the CFPB using SQL, Excel, and Python for manipulation and visualization

Utah State University Campus Recreation   Logan, UT
Intramural Sports Official   Jan 2023 – May 23
- Officiated games, enforced rules, and settled disputes using tools like rulebooks and officiating equipment
- Maintained professionalism and handled sensitive situations tactfully, utilizing effective communication and conflict-resolution techniques
- Collaborated with Intramural Sports Officials, coaches, and program coordinators, utilizing communication tools and scheduling software to ensure program efficiency

American International University-Bangladesh (AIUB)   Dhaka, Bangladesh
Research Assistant (RA)   May 2021 – July 2022
- Conducted research on healthcare applications and IoT devices, performing literature reviews, surveys, interviews, and data analysis using SPSS. Identified research gaps, proposed solutions, and contributed to publications benefiting marginalized populations in healthcare

Advanced Technology Solutions   Dhaka, Bangladesh
Technical Analyst   Jan 2020 – Dec 2021
- Utilized tools such as data analysis software (e.g., SPSS) to analyze data from 500,000 patients and 2,000 doctors, designing predictive applications and advising precautionary measures
- Led in-person and virtual teams of 50 and 200, respectively, in application development using project management tools for maximum efficiency
- Developed diagrams and models using visualization tools, connecting 10,000 users to resources, enhancing decision-making and efficient

- Integrated company patient profile data with government data via Electronic Data Interchange (EDI), expanding research capabilities
- Collaborated with developers, marketing, and sales teams to streamline prelaunch applications, achieving successful results in just 3 iterations

Panyapiwat Institute of Management and CP All   Bangkok, Thailand
Internship   Sep 2017 – Dec 2017
- Developed skills in IT for digitalization and innovation
- Gained knowledge in management science and integrated management systems

PROJECTS

Utah State University, Jon M. Huntsman School of Business   Logan, UT
Deep Learning-Based Image Captioning: Generating Descriptive Captions using CNNs and LSTMs
- Developed deep learning model for image captioning using the Flickr8k dataset, incorporating Convolutional Neural Networks (CNNs) and Long Short-Term Memory (LSTM) networks
- Leveraged preprocessing techniques, optimized model architecture, and evaluation metrics like BLEU score to generate accurate and descriptive captions

American International University-Bangladesh   Dhaka, Bangladesh
Smart Dust Advancement: The Future of Global Internet of Things (IoT)   *2017*
- Researched and explored the potential of smart dust in IoT to enhance healthcare services, conducting qualitative analysis for multiple entities
- Designed hands-on experience in technology utilization, and data analysis, and gained a deep understanding of the intersection between technological innovations and their impact on human implications

Blood Supply Chain Management (BSCM) and Key Challenges in Bangladesh   *2017*
- Identified opportunities for technology integration in healthcare systems to streamline service provision and optimize resource utilization
- Analyzed key challenges in blood supply chain management, highlighting potential benefits of IT implementation in improving efficiency, reducing costs, and enhancing service quality

Adopting data-driven decision-making in healthcare organizations: Opportunities and challenges in Bangladesh   *2018*
- Researched adoption of data-driven decision-making in healthcare organizations, focusing on opportunities and challenges in Bangladesh
- Explored implementation of a central clinical data repository and proposed strategies to enhance health service effectiveness, efficiency, and decision-making, including secure data exchange, medical supply chain management, and IoT remote monitoring security

RESEARCH PAPER
- Published article in the Association for Computing Machinery (ACM) for conference proceedings and presentation at the International Conference on Computing Advancements 2022
  - *The Internet of Medical Things (IoMT) and Cloud in Healthcare: Use, Impact and Efficiency of Contemporary Sensor Devices Used by Patients and Clinicians.* https://dl.acm.org/doi/10.1145/3542954.3543015

STUDENT RESEARCH SYMPOSIUM - POSTER PRESENTATION
  - *Comparative Analysis of Feature Selection and Machine Learning Models for Breast Cancer Risk Prediction*

VOLUNTEER & LEADERSHIP
- Graduate Council Senator, Utah State University Student Association (USUSA)
- Secretary, International Student Council, Utah State University
- Volunteer at the Dhaka Rotary Club and the AIUB Social Welfare Club – SHOMOY
- Campus secretary for Action Against Hunger-AIUB

ACCOMPLISHMENTS
- IT Essentials Program, Cisco Networking Academy, 2018
- 1st Place: IT Business Plan Competition, Faculty of Business Administration, AIUB, 2018
- 1st Place: eHealth - Future Model of Bangladesh and Identifying Opportunities, AIUB, 2018

LANGUAGES
- Bengali, Native
- Hindi, Intermediate
- English, Proficient
- German, Beginner