

# TOFA HOSSAIN

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## EDUCATION

Memorial University of Newfoundland

Fall 2024 - Present

- Master of Science in Computer Science

American International University - Bangladesh

Spring 2020 - Summer 2023

- Bachelor of Science in Computer Science and Engineering
  - CGPA - 3.9 out of 4.0
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## WORK EXPERIENCES

Idee Digital - Part-Time Web Developer

November 2024 - Present

- Developed an Admin panel with CRUD functionalities using NextJS, AWS Lambda and DynamoDB
- Developed an external payment page to receive charitable donations

Banglalink - Internship at Service Assurance Management

June 2023 - September 2023

- Daily, Weekly, and Monthly report generation on Telecommunication Network Failure Point Data
  - Created a process for automated data cleaning using Python - Pandas, improving document retrieval speed by 25%
  - Directly addressed over 800 customer concerns nationwide
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## ACADEMIC PROJECTS

Netflix Dataset Analysis - Data Visualization

Winter 2025

- Comprehensive analysis of Netflix's content trends and recommendation patterns using Python Libraries
- Interactive and static visualizations with D3.js and Plotly for data-driven insights
- Analyzed main genres and subgenres to identify content distribution patterns

Stock Trading Simulation - Software Engineering

Fall 2025

- Real-time stock data integration with trading and portfolio management
- Analytics dashboards with performance visualization and leaderboard tracking
- Used JavaScript and Node.js for backend logic, EJS for frontend templating, and MongoDB for secure data storage

Legal Document Query System - Data Mining

Fall 2025

- Integrated a RAG pipeline to retrieve and process relevant legal documents for accurate query responses
- Integrated Legal-BERT and OpenAI models to evaluate legal query performance, with a Streamlit-based interface
- Developed a Streamlit-based user interface for seamless interaction and real-time query processing
- LangChain was utilized to manage the flow of data between models and sources

Cats/dogs Image Classifier - Bachelor's Course - Machine Learning

Spring 2023

- Data pre-processing and Normalization
  - Dropouts and Batch Normalization to reduce overfitting
  - Technologies Used: Pandas, TensorFlow - CNNs
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## PERSONAL WORKS

- **Tic Tac Toe Game (Web Development)**
    - Interactive game with player symbol customization and animated winning squares
    - Dynamic status updates and responsive layout for accessibility
    - Enhanced gameplay experience with hover effects
    - Responsive layout for accessibility across devices
    - Technologies Used: React, CSS, JavaScript, HTML, GIFs for animations, Responsive Design
  - **UI/UX Design (Figma)**
    - **Fruit Soda Company Website UI** – Designed a clean and visually appealing website UI for a fruit soda company, focusing on product showcase, user-friendly navigation, and vibrant, brand-aligned visuals
    - **Interactive Pizza Shop Website UI** – Designed an interactive website UI for a pizza shop, with a dynamic menu system and smooth user interactions for a seamless browsing experience
  - **Graphic Design (Adobe Photoshop, Illustrator)**
    - **Project Exhibition Poster for Ahsanullah University** – Designed an engaging poster for the university's project exhibition, incorporating the theme and highlighting key projects
    - **Event Poster for IUT** – Created a vibrant event poster for an (Islamic University of Technology) event, focusing on the event's key message and symbolized client's specific icons
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## SKILLS

- **Frontend:** JavaScript, React, NextJS, HTML, CSS, Tailwind
  - **Backend:** NodeJS, Python, MongoDB, SQL
  - **Tools & Libraries:** Git, Figma, Canva, Streamlit, Seaborn, Matplotlib, D3.js, Plotly, LangChain
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## RESEARCH WORKS

- **Threat Detection and Intrusion Prevention in Cloud Computing (Unpublished)** – This paper explores how IPS technologies have evolved to meet challenges, focusing on HIPS, NIPS, and AI-driven models
  - **Impact of Transfer Learning for Adversarial Robustness (Unpublished)** – This paper aims to organize and establish connections in the existing research related to the impact of transfer learning on adversarial robustness
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## CERTIFICATIONS

- Leadership Training Certificate from BYLC (Bangladesh Youth Leadership Center)
  - Cisco networking academy IT Essentials course
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## VOLUNTARY EXPERIENCES

- Participated in Women's Competitive Programming
- Online Competitive Gaming
- Solving Puzzles
- Music, Arts and Crafts