SUSRITA CHATTERJEE

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Education

Saint Mary's University   Sep. 2025 – Aug. 2025; GPA:4.15/4.3
Master in Computer Science (Durland Scholarship, Mitacs Graduate Fellowship)

RCC Institute of Information Technology   June. 2019 – June. 2023;GPA: 9.27/10
Bachelor in Electronics & Communication Engineering

Relevant Coursework

- Data Structures & Algorithms
- Operating System (TA)
- Cryptography (TA)
- Multimedia Computing
- (TA)
- Security Systems (TA)
- Artificial Intelligence
- Database Management
- Machine Learning
- Computer Graphics

Experience

Royal Bank of Canada (RBC Amplify 2025)   May 2025 - Aug 2025
Data Engineer   *Halifax, Nova Scotia*
- Developing a system on Surveillance Capability enhancement to help Branch Directors and Investment Advisors spend less time on switching to different systems to resolve one alert on a specific trade. Our solution provides better conversation management, ai assistant for suggested follow up, ML based alert on each account before start trading.

Modest Tree (Mitacs Accelerate Fellowship)   January 2023 – May 2024 & September 2024-March 2025
Machine Learning Engineer   *Halifax, Nova Scotia*
- Developed a Reinforcement Learning framework over Yolov8 and Yolov10 to experiment on enhancing results for boat class (boat precision was increased by 10%). Fine-tuned Yolov10 and Yolov11 with a new AlignDET framework (a retraining framework for both box and instance training)

Sobey's School of Business, Saint Mary's University (SMUWorks Grant)   October 2023 – March 2024
Consumer Psychology Researcher, Supervisor: prof. Dr. Ethan Pancer   *Halifax, Nova Scotia*
- My research is based on Consumer Responses Analysis on Avatar-based marketing. Analyzed the need for policy enforcement on Generative AI based avatar. generation 🌐 Link

Saint Mary's University (Graduate Student Researcher)   September 2023 – August 2025
Machine Learning Researcher   *Saint Mary's University, Halifax, Nova Scotia*
- Developed an enhanced U-Net model for Satellite streak detection (Achieved 94% Accuracy) ⭘ Link & developed an application on road maintenance system where predictions are made on satellite based binary road imagery.
- Introduced a new circular patch based sliding window algorithm for having maintenance decision for road parts

Projects

Road Maintenance Scheduling with Reinforcement Learning | *Python, Reinforcement Learning*   January 2024
- Developed a web-based application aimed at improving road maintenance processes by leveraging satellite imagery.
- Introduced a novel circular patch-based sliding window algorithm to segment roads and assess maintenance needs.
- Integrated predictions on satellite-based binary road imagery, focusing on detecting areas that require minor or major repairs.
- Came up with a new algorithm for intersection point analysis. It is based on on the combinations of QGIS Software

Graph Convolution based Activity Closeness Estimation | *Python, GCN framework, Image Processing* **October 2020**
- The innovative methodology introduced in this research offers several advantages over conventional video comparison techniques by integrating human pose estimation, dynamic graph representations, and Graph Neural Networks (GNNs)

Technical Skills

Programming Languages: Python, C, C++, MATLAB, Cuda (Basic) **Frameworks**:PyTorch,Tensorflow, Keras
Technologies/Frameworks: Linux, GitHub, WordPress
Tools:Git, Linux, HTML, CSS, LATEX **Libraries**:Matplotlib, Sklearn, OpenCV, Openpose,Sonnet
Product Management Skills:Google Analytics, Excel, Agile Development, Figma
Technology:Computer Vision, Image Processing, Video Analytics, Computer Graphics,Deep Learning, Neural Networks, Product Design, UX Research, Consumer Psychology
Languages:English (Fluent/Working Proficiency), French (Intermediate), Hindi(Fluent)

Leadership / Extracurricular

SMU Residence Life & Mitacs   **Fall 2024 – Fall 2025**

Student Leader   *Saint Mary's University*

- Served for Residence Wellness Team to promote Awareness on Alcohol and Cannabies Use. Conducted 30+ workshops. wrote 10+ blogs) Served as an Election Officer for Student Organization

- Served as a peer coach for mental health Department, SMU & a team lead in Residence Services Operation

- Got awarded Grace Hopper Student Scholarship, Linux Foundation Award, and wicked challenge award for my thesis and leadership activities and Problem Wall Winner for providing a solution to solve housing crisis in Canada

- Served as a Mitacs mentor to guide and plan the internship journey of the 15 interns worldwide.