

SWATI RAJWAL



srajwal@emory.edu

EDUCATION

| | |
|--|--|
| Emory University, USA PhD, Computer Science & Biomedical Informatics | 2023 - 2028 GPA: 3.94/4 |
| Netaji Subhas University of Technology Master of Technology (M.Tech.) Computer Science | 2020 - 2022 Dept. Rank 1, Gold Medalist |
| Indira Gandhi Delhi Technical University for Women Bachelor of Technology (B.Tech.) Computer Science & Engineering | 2014-2018 First Class with Distinction |

ACADEMIC EXPERIENCE

| | |
|--|---------------------------------------|
| Emory Biomedical Informatics Department & CDC <i>Social Isolation-related suicide circumstances within NVDRS</i> | Atlanta, USA Sept. 2023 - Jan 2024 |
| <ul style="list-style-type: none">* NLP-based approach for tracking rising trends in suicide circumstances using NVDRS dataset by Division of Violence Prevention (Manuscript in progress)* Project under guidance of Prof. Abeed Sarker (Emory) & Dr. Steven A. Sumner (CDC)* Identified social determinants of health to find trends within marginalized communities and subgroups | |
| Concordance in Breast Cancer Screening b/w Traditional & DL Models <i>CSI Department, Emory University</i> | Atlanta, USA Sept - December 2023 |
| <ul style="list-style-type: none">* Utilized EMory BrEast Imaging Dataset (EMBED) for inter-observer variability study between ML & DL approaches based on imaging (mammograms) and non-imaging data (clinical)* Using linear classification, KNN and ensemble model for clinical data and ResNet, InceptionNetV2 for mammograms classification* Preliminary research conducted as part of CS 574 coursework in Machine Learning (by Prof. Joyce Ho) | |
| University of Cambridge <i>Engineering Department, Research Assistant</i> | United Kingdom Jan - Aug 2023 |
| <ul style="list-style-type: none">* Investigated relationship b/w fluctuating values of statistical learning in chronic back pain and endogenous pain regulation (NOX Lab under guidance of Dr. Flavia Mancini)* Designed a PsychoPy task to continuously record the pain fluctuations longitudinally in addition to collecting clinical and psychological questionnaires (STarT, PHQ-9,BPI, PCS, GAD-7) using qualtrics* Cross-team collaboration with Prof. Ben Seymour (Clinical neuroscience, Oxford) on understanding how the brain makes decisions about uncertain rewards and losses (Manuscript in progress)* Computationally (Python & RSTAN) processed data recorded from a 3-armed bandit algo-based task | |
| University of Oxford <i>Saïd Business School, Research Assistant</i> | United Kingdom Aug - December 2022 |
| <ul style="list-style-type: none">* Research focused on the applications of Generative adversarial networks (GANs) in marketing and advertisement.* Under the guidance of Dr. Efremova, Prof. Hadi, Prof. Andrew, and WPP as industry partner* Implemented technical architecture for automating image processing using the StyleGAN3 model in Python.* This work understands consumer reaction to synthetic humans that resemble them (Manuscript in progress) | |

PUBLICATIONS

- * Guo, Y., **Rajwal, S.**, et al. (2023) Generalizable Natural Language Processing Framework for Migraine Reporting from Social Media. AMIA Jt Summits Transl Sci Proc. PMID: 37350878; PMCID: [PMC10283091](#)
- * **Rajwal, S.** (2023) LiHiSTO: A Comprehensive List of Hindi Stopwords. MTAP, Springer. [s11042-023-17205-9](#)
- * S Das, D Walker, **Swati Rajwal**, et al. (2023) Emerging Trends in Self-Harm: Sodium Nitrite and an Online Suicide Community. In-press at JMIR Mental Health. [10.2196/preprints.53730](#)
- * **Rajwal, S.** (2023). Design of a Chatbot for Children Based on Emotional Intelligence. In Intl. Conference on Innovative Computing & Communications, Springer. [10.1007/978-981-19-2821-5_57](#)
- * **Rajwal, S.**, & Aggarwal (2023). CNN-Based EEG Signal Analysis: A Systematic Review. In Archives of Computational Methods in Engineering. Springer Science & Business Media LLC. [10.1007/s11831-023-09920-1](#)
- * **Rajwal, S.** (2022). The Truth About Multitasking in Humans, IEEE Magazine, [10.1109/MWIE.2022.3155910](#)

INDUSTRY EXPERIENCE

Eaton Corporation

Pune, India

Associate Software Engineer, Full Time

2018 - 2020

- * Spearheaded R&D team analyzing business priorities & finalized lab layout for Software validation & RCA
- * Implemented Google smart home intents to provide user control of Eaton smart devices via voice commands
- * Created Angular operational dashboard with Node.js functions to seamlessly push 100% of data from Eaton's manufacturing line to MS Azure Cosmos DB.
- * Developed an app for wireless devices and implemented CRUD operations for 'routines' in smart devices.
- * Carried out cross-group collaboration b/w Eaton & Amazon's Dev team to work on technical challenges.
- * Prepared user documentation, managed 25+ Beta testers, released app on Android Play Store & TestFlight
- * Generated test plans with 350 functional & Non-functional requirements to validate functionality, performance, & reliability of smart devices leading to successful Gate 5 GO.

Accenture Research Lab

Bangalore, India

Innovations for Sustainability, R&D Senior Analyst Intern

February - August 2022

- * Designed and developed a mechanism to determine and measure the frugality of a software solution
- * Frugal factors considered are affordability, simplicity, quality, sustainability, security, and accessibility
- * Tool also recommends best practices with trade-off analysis for a frugal software solution
- * Presented the project results and demonstrated the PoC amongst the stakeholders and research team

SCHOLARSHIPS

Women in Natural Sciences Fellowship

Atlanta, USA

Emory University

August 2023

- * Academic achievement based financial award to support PhD in Computer Science.

Summer School Scholarship

Milan, Italy

Mediterranean Machine Learning Summer School (M2L)

Sept 2022

- * Grant awarded to [attend](#) the school and present research paper poster.

Post Graduate Scholarship

New Delhi, India

All India Council for Technical Education (AICTE)

2020 - 2022

- * Recipient of a merit-based academic scholarship by AICTE, the Government of India.

EXTRA-CURRICULAR

- * Published an [Amazon Alexa Skill](#) for Alexa enabled devices
- * [Volunteer](#) to promote Research Data Management (RDM) to support FAIR research principles
- * Selected as [Google's Women Techmakers Ambassador](#) in the Cohort of 2022
- * Attended and Volunteered at WiML workshop co-located with NeurIPS 2021
- * Authored technical articles for [Towards Data Science](#), [Geek Culture](#), & AV Data Science Blogathon [10](#), [13](#), [15](#)
- * Amongst the [Top 25 Winners](#) at 2021 edition of Microsoft Azure Developer Stories contest

RELEVANT COURSEWORK

Emory Spring 2024

- * CS-572: Information Retrieval (Prof. Eugene Agichtein)
- * BMI-510: Biostatistics for Machine Learning (Prof. J Lucas McKay)

Emory Fall 2023

- * CS-557: Artificial Intelligence (Prof. Eugene Agichtein)
- * BMI-550: Applied Biomedical Natural Language Processing (Prof. Abeed Sarker)
- * CS-571: Natural Language Processing (Prof. Fei Liu)
- * CS-534: Machine Learning (Prof. Joyce Ho)

TEACHING EXPERIENCES

- * CS-325: Artificial Intelligence w/ Prof. Agichhtein (Spring 2024)
- * ICCSC-05: Data Structures w/ Prof. Chakraborty (Fall 2021)

SESSIONS CONDUCTED

- * Hosted a [session](#) with Dr. Alpana Dubey (Sr. Tech. Researcher) to discuss R&D career
- * [Text Classification](#): Predicting 'Good' or 'Bad' Statements using NLP at Deeplearning.ai platform
- * [Demonstrated a chatbot](#) application using Dialogflow, flask, and Python at Deeplearning.ai session
- * [Customer churn prediction model](#) in Python using Azure ML as Microsoft Learn Student Ambassador
- * [Application of Reinforcement Learning in Financial Markets](#): build a Self-Learning Trading Agent w/ Azure
- * [Getting Started with MS Azure](#): Hands-on for various AI APIs using Microsoft's Intelligent Kiosk platform.