

SWATI RAJWAL



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EDUCATION

Emory University, USA PhD, Computer Science & Informatics	2023 - 2028 CGPA: 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 POSITIONS

University of Cambridge <i>Engineering Dept., Research Assistant w/ Dr. Mancini</i>	United Kingdom Jan - Aug 2023
<ul style="list-style-type: none">* Investigated fluctuating values of statistical learning in chronic back pain and endogenous pain regulation* Designed PsychoPy task to record pain & clinical data (STarT, PHQ-9, BPI, PCS, GAD-7) via Qualtrics.* Computationally (Python & RSTAN) processed data recorded from a 3-armed bandit algo-based task* Facilitated EPSRC grant application that awarded our team 1,216,800 CPU & 1,000 GPU hours	
University of Oxford <i>Saïd Business School, Research Assistant</i>	United Kingdom Aug - December 2022
<ul style="list-style-type: none">* Research on the applications of Generative adversarial networks (GANs) in marketing & ads.* Under the guidance of Dr. Efremova, Prof. Hadi, Prof. Andrew, and WPP as the industry partner* Implemented technical architecture for automating image processing using the StyleGAN3 model in Python.	

CURRENT PROJECTS

Social Isolation-related Suicide Circumstances within NVDRS <i>Emory Biomedical Informatics Department & CDC</i>	Atlanta, USA Sept. 2023 - Jan 2024
<ul style="list-style-type: none">* NLP-based approach to track trends in suicide circumstances using NVDRS dataset (Manuscript underway)* BERTopic & Regex for isolation-topic identification and supervised ML models for classification* 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 for inter-observer variability study between ML & DL approaches* Used SVM for clinical data and ResNet, InceptionNetV2 for mammograms classification on H100 Server* Preliminary research conducted as part of CS 574 coursework in Machine Learning (by Prof. Joyce Ho)	

PUBLICATIONS

- * **Rajwal, S.**, Pandey, A., et al. 2024. Unveiling Voices: Identification of Concerns in a Social Media Breast Cancer Cohort via NLP. To-appear in CL4HEALTH Workshop within LREC-COLING 2024. [[GitHub Repo](#)]
- * **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. (2023)** LiHiSTO: A Comprehensive List of Hindi Stopwords. Springer.[[Manuscript](#)], [[GitHub Repo](#)]
- * 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](#)
- * S Das, D Walker, **Rajwal S.**, et al. (2023) Emerging Trends in Self-Harm: Sodium Nitrite and an Online Suicide Community. In-press at JMIR Mental Health. [[Manuscript](#)], [[GitHub Repo](#)]
- * **Rajwal, S.**, & Chakraborty, P. Application of AI in Compiler Design. [Best paper Award](#) at 41st National Conference on Recent Trends in 5G Technology & Artificial Intelligence. [Paper link](#).
- * **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 to finalize lab layout for Software validation & Root cause analysis (RCA)
- * Implemented Google smart home intents to provide user control of Eaton devices via voice commands
- * Created Angular dashboard (Node.js functions) to push Eaton's manufacturing line data to 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 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.

Summer Research Scholarship

Hyderabad, India

Srini Raju Centre for IT and the Networked Economy Department

July 2021 - Jan. 2022

- * Received a scholarship for undertaking research project for a duration of six months at ISB w/ Prof. Pamuru.

EXTRA-CURRICULAR

- * Published an [Amazon Alexa Skill](#) for Alexa enabled devices
- * Selected as [Google's Women Techmakers Ambassador](#) in the Cohort of 2022
- * Attended and Volunteered at WiML workshop co-located with NeurIPS 2021
- * Submission Reviewer at Grace Hopper Celebration 2022
- * 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

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

TEACHING EXPERIENCES

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

REFERENCES

Available upon request