SWATI RAJWAL

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EDUCATION

Emory University, USA *2023 - 2028*
PhD, Computer Science & Informatics CGPA: 3.978/4

Netaji Subhas University of Technology *2020 - 2022*
Master of Technology (M.Tech.) Computer Science Dept. Rank 1, Gold Medalist

Indira Gandhi Delhi Technical University for Women *2014-2018*
Bachelor of Technology (B.Tech.) Computer Science & Engineering First Class with Distinction

ACADEMIC POSITIONS

University of Cambridge United Kingdom
Engineering Dept., Research Assistant w/ Dr. Mancini *Jan - Aug 2023*

* 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 United Kingdom
Saïd Business School, Research Assistant *Aug - December 2022*

* 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.
* This work understands consumer reaction to synthetic humans that resemble them (Manuscript in progress)

PUBLICATIONS

* **Rajwal S**, Pandey A, et al. 2024. Unveiling Voices: Identification of Concerns in a Social Media Breast Cancer Cohort via NLP. In CL4Health Workshop at **LREC-COLING** 2024. [Paper], [Code]

* **Rajwal S**, Agichtein E, Sarker A. 2024. Knowledge-Enhanced Few-Shot In-Context Learning for Medical Error Detection & Correction. In Clinical NLP workshop at **NAACL**'24. [Paper], [Code]

* Das S, Ge Y, Guo Y, **Rajwal S**, et al. 2024. Two-Layer Retrieval-Augmented Generation Framework for Low-Resource Medical Question Answering Using Reddit Data: Proof-of-Concept Study. JMIR. 10.2196/66220.

* **Rajwal S**, et al. 2024. Applications of NLP & LLMs for SDOH: Protocol for a Systematic Review. [Paper]

* Guo Y, **Rajwal S**, et al. 2023. Generalizable NLP for Migraine Reporting from Social Media. [AMIA], [Code]

* Das S, Walker D, **Rajwal S**, et al. 2024. Emerging Trends of Self-Harm Using Sodium Nitrite in an Online Suicide Community: Observational Study Using NLP Analysis. JMIR Mental Health. [Paper], [Code]

* **Rajwal S**. 2023. LiHiSTO: A Comprehensive List of Hindi Stopwords. Springer.[Paper], [Code]

* **Rajwal S**. 2023. Design of a Chatbot for Children Based on Emotional Intelligence. Springer

* **Rajwal S**, & Aggarwal S. 2023. CNN-Based EEG Signal Analysis: A Systematic Review. Springer

PREPRINTS

* Romanou A.,...**Rajwal, S.** et al. Evaluating Multilingual Language Understanding w/ Regional Knowledge

* Zheng X, **Rajwal S** et al. 2024. Psychopy-based Continuous Pain Monitoring Task. 10.5281/zenodo.13754802

* Rajwal, S. (2024). Decade of NLP in Chronic Pain: A Systematic Review. arXiv preprint arXiv: 2412.15360

SCHOLARSHIPS

* WiML NeurIPS Travel Fund by NSF (Canada, 2024)

* Scholarship approved to participate in 4th Annual Stanford AI+HEALTH conference (Virtual, 2024).

* Emory Women in Natural Sciences Fellowship for PhD (USA, 2023)

* AI Education Foundation travel grant to present at Mediterranean ML Summer School (Italy, 2022)

* Govt. of India AICTE Post Graduate scholarship (India, 2020-22)

MAGAZINE ARTICLES

* A computer scientist's role in Neuroscience (2024). Women in Neuroscience UK

* The truth about multitasking in humans (2022). IEEE Magazine

* The do's & don'ts of writing a research request email (2022). ACM XRDS

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.
* 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

REVIEWING ACTIVITIES

* 13th International Conference on Learning Representations (ICLR) 2025
* WiML workshop co-located with NeurIPS in 2024 (Canada) and 2021 (Virtually)
* Journal of the American Medical Informatics Association (JAMIA) 2024
* AMIA 2025 Informatics Summit and Clinical Informatics Conference
* 9th Social Media Mining for Health Research and Applications (#SMM4H) [Overview paper]
* MEDIQA-CORR@ ClinicalNLP (NAACL) 2024

EXTRA-CURRICULAR

* Mentor at Emory University Association of Women in Science 2023-2024 Mentorship Program
* Member and Mentor at Rewriting the Code since 2019
* Member of Cohere For AI Open Science Community and *Global Exam* project contributor
* Published an Amazon Alexa Skill for Alexa enabled devices
* Selected as Google's Women Techmakers Ambassador in the Cohort of 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

* BMI-500: Intro. to Ethical Data Science & Informatics (Profs. Gari Clifford and Matthew Reyna)
* BMI-510: Biostatistics for Machine Learning (Prof. J Lucas McKay)
* BMI-550: Applied Biomedical Natural Language Processing (Prof. Abeed Sarker)
* CS-557: Artificial Intelligence; CS-572: Information Retrieval (Prof. Eugene Agichtein)
* CS-571: Natural Language Processing (Prof. Fei Liu)
* CS-534: Machine Learning (Prof. Joyce Ho)

TEACHING EXPERIENCES

* CS-329: Computational Linguistics w/ Prof. Jinho Choi (Emory, Spring 2025)
* CS-534: Machine Learning w/ Prof. Agichtein (Emory, Fall 2024)
* CS-325: Artificial Intelligence w/ Prof. Agichtein (Emory, Spring 2024)

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.