

# SWATI RAJWAL



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## EDUCATION

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<b>Emory University, USA</b> PhD, Computer Science & Informatics	2023 - 2028 CGPA: 3.978/4
<b>Netaji Subhas University of Technology</b> Master of Technology (M.Tech.) Computer Science	2020 - 2022 Dept. Rank 1, Gold Medalist
<b>Indira Gandhi Delhi Technical University for Women</b> Bachelor of Technology (B.Tech.) Computer Science & Engineering	2014-2018 First Class with Distinction

## ACADEMIC POSITIONS

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<b>Emory University Center for AI Learning</b> <i>Research Fellow &amp; Lead for <a href="#">AI.Data</a> Lab</i>	USA Jan - May 2025
<ul style="list-style-type: none"><li>* Collaborated with project sponsors to establish foundational goals &amp; evaluated team deliverables</li><li>* Helped students on technical and project management skills via mini-lectures and in-person Q&amp;A</li></ul>	
<b>University of Cambridge</b> <i>Engineering Dept., <a href="#">Research Assistant</a> w/ Dr. Mancini</i>	UK Jan - Aug 2023
<ul style="list-style-type: none"><li>* Investigated fluctuating values of statistical learning in chronic back pain and endogenous pain regulation</li><li>* Designed PsychoPy task to record pain &amp; clinical data (STarT, PHQ-9, BPI, PCS, GAD-7) via Qualtrics.</li><li>* Computationally (<b>Python</b> &amp; <b>RSTAN</b>) processed data recorded from a <a href="#">3-armed bandit algo-based task</a></li><li>* Facilitated EPSRC grant application that awarded our team 1,216,800 CPU &amp; 1,000 GPU hours</li></ul>	
<b>University of Oxford</b> <i>Saïd Business School, Research Assistant</i>	Remote, UK Aug - Dec 2022
<ul style="list-style-type: none"><li>* Research on <b>the applications of Generative adversarial networks (GANs) in marketing &amp; ads.</b></li><li>* Under the guidance of Dr. Efremova, Prof. Hadi, Prof. Andrew, and WPP as the industry partner</li><li>* Implemented technical architecture for automating image processing using the StyleGAN3 model in Python.</li></ul>	

## PUBLICATIONS

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- \* **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](#)], [[NeurIPS](#)]
- \* **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. NLP & LLMs for SDOH: Protocol for Systematic Review. [[Paper](#)], [[Protocol](#)]
- \* 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

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- \* 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

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- \* WiML NeurIPS Travel Fund by NSF (Canada, 2024)
- \* Scholarship approved to participate in 4<sup>th</sup> 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

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- \* 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

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### **Eaton Corporation**

*Associate Software Engineer, Full Time*

Pune, India

*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**

*Innovations for Sustainability, R&D Senior Analyst Intern*

Bangalore, India

*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

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- \* 13<sup>th</sup> 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
- \* 9<sup>th</sup> Social Media Mining for Health Research and Applications (#SMM4H) [[Overview paper](#)]
- \* MEDIQA-CORR@ ClinicalNLP (NAACL) 2024

## EXTRA-CURRICULAR

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- \* 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

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- \* 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

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- \* 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

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- \* 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.