Room 524, Artificial Intelligence Laboratory, AIISC,
5th Floor, 1112 Greene St Columbia, SC 29208
+1 (803) 477-4526
dtilwani@mailbox.sc.edu
deepa-tilwani-b758551a0
https://tinyurl.com/3b3rerew

Deepa Tilwani

Education

2022–Present **Pursuing Ph.D. in Computer Science and Engineering**, *University of South Carolina*, Columbia, SC, USA
Co-advised by Dr. Amit P. Sheth and Dr. Christian O'Reilly — GPA: 3.58/4.0

2019–2022 **M.Tech in Computer Science and Engineering**, *The LNM Institute of Information Technology*, Jaipur, Rajasthan, India

2014–2018 **B.Tech in Computer Science and Engineering**, *Govt. Women Engineering College*, Ajmer, Rajasthan, India

Skills

Programming Languages: Python, PyTorch, Keras, TensorFlow, Scikit-learn, Seaborn, NumPy, Pandas, CUDA, GIT

Technical: Large Language Models, NeuroSymbolic AI, Machine Learning, Deep Learning, Signal Processing, EEG, MRI

Professional Experience

2022–Present **Graduate Research Assistant**, *Artificial Intelligence Institute, University of South Carolina*, Columbia, SC, USA

2021–2022 **Visiting Researcher**, *Artificial Intelligence Institute, University of South Carolina*, Columbia, SC, USA

2020–2021 **Remote Research Intern**, *Artificial Intelligence Institute, University of South Carolina*, Columbia, SC, USA

Publications

Journal Articles
- **Tilwani, D.**, Bradshaw, J., Sheth, A., & O'Reilly, C. (2023). ECG Recordings as Predictors of Very Early Autism Likelihood: A Machine Learning Approach. *Bioengineering*.
- O'Reilly, C., Oruganti, S. D. R., **Tilwani, D.**, & Bradshaw, J. (2023). Model-Driven Analysis of ECG Using Reinforcement Learning. *Bioengineering*.

Conference Proceedings
- Porwal, S., Patel, K. C., **Tilwani, D.**, & Bansal, S. K. (2021). A Comparative Study and Tool to Early Predict Diabetes Using Machine and Deep Learning Techniques. *Emerging Trends in Data-Driven Computing and Communications*.

Posters
- **Tilwani, D.**, Goswami, R., O'Reilly, C., Riccardi, N., Yang, X., Shalin, V., Shinkareva, S., Sheth, A., & Desai, H. R. (2023). Predicting Language Outcomes from MRI Post-Stroke: A Machine Learning Approach. *Organization for Human Brain Mapping*, Montreal, Canada.
- **Tilwani, D.**, O'Reilly, C., Bradshaw, J., & Sheth, A. (2023). Interpretable Machine Learning for Predicting the Likelihood of Autism from Infant ECG Recordings. *SCAND Research Symposium*, Columbia, SC.

Under Review

- **Tilwani, D.**, Saxena, Y., Mohammadi, A., Raff, E., Sheth, A., Parthasarathy, S., & Gaur, M. (2024). REASONS: A benchmark for REtrieval and Automated citationS Of scieNtific Sentences using Public and Proprietary LLMs. **Submitted to EMNLP Commitment 2024**
- Dalal, S., **Tilwani, D.**, Gaur, M., Jain, S., Shalin, V., & Sheth, A. (2023). A Cross Attention Approach to Diagnostic Explainability Using Clinical Practice Guidelines for Depression. **Minor Revision, Accepted to IEEE Journal of Biomedical and Health Informatics (IF: 7.7)**.
- **Tilwani, D.**, O'Reilly, C., Riccardi, N., Shalin, V., Shinkareva, S., Sheth, A., & Desai, H. R. (2023). Predicting Language Ability from MRI in Post-Stroke Patients: An Advanced Machine Learning Approach. **Submitted to Scientific Reports**.

Awards & Achievements

- 2023 Trainee Best Research Presentation Winner ($100), SCAND Symposium.
- 2023 Research Symposium Third Place Poster Award ($200), University of South Carolina.
- 2021 Jayana Clerk Fellowship ($15000), AIISC.
- 2020 2nd Prize ($100), LINZ Ars Festival - BR41N.IO Hackathon.
- 2020 2nd Prize ($300), BR41N.IO: Brain-Computer Interface Designers Hackathon.
- 2016 1st Place, Poster Presentation on AR and VR Technology, GWECA.
- 2015 3rd Place, Coding Challenge: Toast to Code - C Language, GWECA.
- 2012 Silver Prize, National Science Olympiad (NSO).

Advising & Mentoring

- Yash Saxena, Galgotias University, 2023-Present. Project: "REASON: Reference and Assertions for Consistent Evaluation of Factual/Non-Factual Sentences".
- Nethra Gunti, IIIT SriCity, 2022. Project: "Phase Shift Analysis in Autism Spectrum Disorder: A Video-Based Study of Parent and Object Interactions".
- Sai Durga Rithvik Oruganti, University of South Carolina, 2022. Project: "Phase Shift Analysis in Autism Spectrum Disorder: A Video-Based Study of Parent and Object Interactions".

Teaching Experience

- Teaching Assistant, SCINBRE Machine Learning in Python Workshop 2024, University of South Carolina.
- Instructor, Introduction to Machine Learning, AIISC High School Summer Camp, 2024.
- Instructor, Introduction to Python, AIISC High School Summer Camp, 2023.
- Teaching Assistant (2019-2021), The LNM Institute of Information Technology: Computer Networks, Data Structures, DBMS, and Advanced Programming Labs.

Community Service

Journal Reviewer

- CIKM, KG-STAR Workshop, 2024.
- Scientific Reports 2024.
- Data Mining and Knowledge Discovery 2024.
- Frontiers in Psychiatry, 2023.
- Frontiers in Neuroimaging, 2023.
- MDPI, Advanced NLP and Machine Translation, 2023.

Voluntary Work
- Web and Publicity Chair, KG-STAR Workshop, CIKM 2024.
- Coordinator, AIISC Retreat, 2023.
- Session Moderator, ACM KDD Workshop on Knowledge-infused Learning, 2023.
- Coordinator, AIISC High School Summer Camp, 2023.
- Student Member, AAAI (2022-Present).