Pramath Girish Haritz

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EDUCATION

PES University   Bangalore, Karnataka
Bachelor of Technology in Electronics and Communication, specialization in Signal Processing   *Aug 2021 – Present*
- Relevant Courses: Linear Algebra(UE21MA241B), Principles of Digital Signal Processing(UE21EC252B), Signals and Systems(UE21EC243A), Artificial Neural Networks(UE21EC343AC1), Robotic Systems(UE21EC342BC3), Deep Learning (UE21EC343BC3) and Machine Learning and Applications(UE21EC352B)

EXPERIENCE

Undergraduate Research Intern   June 2024 – August 2024
Center for Robotics, Automation and Intelligent Systems,cRAIS PES University   *Bangalore, Karnataka*
- Applied machine learning to analyze EEG signals and physiological data, supporting CMD diagnosis.
- Explored innovative applications of machine learning to advance psychology and psychiatry.
- Enhanced psychological screening processes with optimized machine learning algorithms.

Teaching Assistant   August 2024 – Present
Artificial Neural Networks (Elective),PES University   *Bangalore, Karnataka*
- Assisted in developing and delivering course content for the "Artificial Neural Networks" course (UE22EC343AC1), enhancing students' understanding of neural network concepts and applications.
- Provided mentorship and guidance to students, facilitating their project development and implementation of neural network models using Python and MATLAB.
- Curated and facilitated access to tailored resources, including tutorials, documentation, and blogs, addressing specific technical needs and fostering project success.

Hackathon Mentor   May 2024 – April 2024
SYNAPSE 2.0 National Level Hackathon   *Bangalore, Karnataka*
- Resolved complex technical issues and ensuring project continuity
- Mentored participants, providing guidance to advance project development and technical skills.
- Curated and provided access to tailored resources, addressing specific technical needs.

PROJECTS

Detection of Depression Through EEG Signals   Completed
- Developed a a novel Deep Learning model to detect depression using EEG data, leveraging advanced signal processing techniques to extract relevant features indicative of depressive states.
- Implemented a Novel Kolmogorov - Convolutional Neural Network (CKAN) architecture, achieving high accuracy in distinguishing between depressive and non-depressive EEG patterns, thereby enhancing diagnostic precision.
- Innovated a diagnostic approach that enhances accessibility for individuals in diverse geographical regions.

Emotion-Cause Pair Extraction From Text Extracts   Ongoing
- Novel Attention mechanism within a neural network framework to effectively extract emotion-cause pairs from textual data, improving the understanding of emotional contexts.
- Enhanced natural language processing capabilities by integrating attention-based models, resulting in more accurate identification of causal relationships between emotions and their triggers in text.
- Transformed the underlying dataset into a more usable format for future research in the field.

TECHNICAL SKILLS

Languages: Python, MATLAB
Frameworks: PyTorch, TensorFlow, Fast.AI, Lightning, Keras
Developer Tools: Git, Docker, VS Code
Libraries: pandas, NumPy, Matplotlib, Seaborn, SciPy, MNE-Python, NeuroKit2, BioSPPy, OpenCV
Concepts: Large Language Models (LLMs), Fine-Tuning, Computer Vision, Natural Language Processing (NLP), Biomedical Signal Processing, Data Analysis, Statistical Learning, Deep Learning

Additional Information

Languages: English, Kannada, Hindi
Non-Technical Skills: Leadership, Problem Solving, Team Coordination and Public Speaking
Hobbies: Trekking, Reading, Fencing and Traveling
References:
Dr. B Niranjana Krupa - Professor and SPaSE(Signal Processing and Systems Engineering) Domain Head
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For additional information, please visit my website at pramath-haritz.github.io or connect with me on LinkedIn.