

College of Engineering and Technology

Project Work/Internship – Student Hand Book



Project Batch ID
NW166

Degree/ program	B.Tech	Specialisation	Computer Science & Engineering	
Academic Year	2023-2024 (Even)	Semester	8	
Name of student	Register Number	Department	Mobile Number	Email ID
Kaushik Tayi	RA2011030010048	NWC	9160067824	st3081@srmist.edu.in
Working Title of the Project:		Alzheimer Disease Detection and Mental Stress Analysis using EEG Signals		
Project Site / Location		Chennai		
Name and address of the company / organisation (Applicable for projects with industry or industry support)		SRM IST, Kattankulathur, Chengalpattu District-603203		
Supervision Team				
	Supervisor	Co-Supervisor	External Supervisor (If applicable)	
Name	Dr. Prabakeran S			
Designation	Assistant Professor			
Department	NWC			
Campus	Kattankulathur			

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Telephone	9042394880		
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Course Code	18CSP109L/ 18CSP111L	Course Title	Project

Mission Statement

Our mission is to revolutionize network security through an innovative Intrusion Detection Systems (IDS) optimization project. Leveraging advanced algorithms like LSTM-AE and transfer learning, we aim to enhance the adaptability, accuracy, and efficiency of IDS. Our commitment is to provide organizations with proactive, intelligent, and resilient defense mechanisms against evolving cyber threats, ensuring the integrity and availability of critical digital assets.

Problem (or) Product Description

Alzheimer's disease (AD) is a devastating neurodegenerative disorder characterized by progressive cognitive decline, memory impairment, and functional impairment. It poses significant challenges to individuals, families, and healthcare systems worldwide. One of the primary obstacles in addressing AD effectively is the difficulty in its early detection and accurate diagnosis. Current diagnostic methods often rely on clinical assessment, which may lack sensitivity and specificity, leading to delayed or inaccurate diagnoses. Neuroimaging techniques, while valuable, can be costly, invasive, and inaccessible to many patients. Additionally, the complexity and heterogeneity of AD present challenges for traditional diagnostic approaches.

Assumptions and Constraints

Assumptions:

EEG Biomarkers Relevance: We assume that EEG biomarkers are reliable indicators of Alzheimer's disease pathology and that their analysis can accurately differentiate between individuals with AD and healthy controls.

Data Availability: We assume access to sufficient EEG datasets containing labeled samples from individuals diagnosed with AD and cognitively normal individuals for training and testing machine learning models.

Constraints:

Data Quality: Limited availability of high-quality EEG datasets with standardized protocols and accurate diagnostic labels may constrain model training and validation.

Stakeholders

End Users: Medical Professionals: Neurologists, psychiatrists, and other healthcare professionals

Patients and Caregivers: Individuals at risk of or affected by Alzheimer's disease, as well as their caregivers

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Division of work and contributors

Time period		Activities or components of the project	Name/Register Number of the Individual Contributor	Names/Register Number of the Joint Contributors
From Date	To Date			
8/12/23	12/01/24	Dataset Findings	Kaushik Tayi RA2011030010048	
8/12/23	12/01/24	Training the Data Set	Kaushik Tayi RA2011030010048	
8/12/23	12/01/24	Creating a UI	Kaushik Tayi RA2011030010048	
8/12/23	12/01/24	Incorporating it with Streamlit	Kaushik Tayi RA2011030010048	
12/01/24	16/02/24	Report generator	Kaushik Tayi RA2011030010048	
12/01/24	16/02/24	EEG scanner	Kaushik Tayi RA2011030010048	
12/01/24	16/02/24	Frontend UI	Kaushik Tayi RA2011030010048	
12/01/24	16/02/24	Integration of front and back end	Kaushik Tayi RA2011030010048	
16/02/24	22/03/24	Additional UI Components	Kaushik Tayi RA2011030010048	
16/02/24	22/03/24	Final Integration of all components	Kaushik Tayi RA2011030010048	

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Summary record of major progress meetings with supervisors

Summary record of major progress meetings with supervisors			Working title of dissertation/research project: Intrusion Detection System Optimization using Transfer Learning	
Meeting date & supervisors present	Progress since last meeting	Agreed programme of work and target dates	Other issues, e.g. facilities, supervision, training needs, etc.	Date of next meeting
8/12/23	Finalization of Title and review of Execution timeline	Project Presentation 30% Demo of project Rough draft of Report and Paper		13/1/24
13/1/23	Implementation of 4 modules Creation of review ppt and review report Draft of research article	Project Presentation 70% Demo of project Rough draft of Report and Paper		13/2/24
13/2/24	Implementation of Front End and threat report creation Creation of review ppt and review report Draft of research article	Project Presentation 70% Demo of project Final draft of Report and Paper		17/2/24

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17/2/24	Project Presentation 70% Demo of project Final draft of Report and Paper	Project Presentation 100% Demo of project Final draft of Research Article		22/03/24
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