LAIRHUB – Lab Meeting

June 14, 2024

Participants – Annie, Aravind, Shamayla, Divya, Paris, Nibras

Project	Project Associate	Action Item	Resource/ Notes
NeurIPS Conference Update		Professor Mostafa shared the experience of NeuroIS conference • The Keynote was on bio-adaptive signals and systems. • Bio-adaptive research is becoming a revolutionary topic. Research on creating human speech based on brain signals is ongoing. When a subject reads a sentence or word, researchers capture the brain signals and map them into words or sentences. • Some devices can collect temperature from the skin and use the data later on to identify behavior. (keywords - wise temperature skin conductance). There are devices available for capturing eye gaze, voice, and body movement to analyze emotion using a predictive algorithm. • There are also devices available that can capture gait movement. • Bio-signals and neuro bio-signals are increasingly becoming very important to understand the intention, state of mind, and predicting the next move of a person. • One of the major uses of bio-signals is monitoring heart conditions during driving. A smart vehicle needs to know whether the driver is feeling sleepy or having a heart attack. • Another major use of bio-signals is in healthcare. One of the important use cases is a smart home. The system needs to detect the fall of elderly people. Smart homes with sensors can do a lot of intervening things. Many elderly people's journey is deteriorated by the start of fall. Also, elderly people may feel unwell but unable to communicate with emergency team as they are living alone. The system works by aligning the normal behavior, if anything deviates from the normal behavior, the system takes action. • However, there are immense issues in protecting privacy. The focus could be on developing a system that can protect individual privacy. • The University of Waterloo has started a project on custom building a set of homes for the elderly. The group monitors, tracks, and supports elder care by advanced smart homes. People who signed up consent that they are being watched. There are issues such as medical or privacy. (potential work review - https://ieeexplore.ieee.org/abstract/document/10100946) • We are interested in attaching an eye-tracking module on top of PATTIE - we will find the answers to the question below (Aravaind)	

		○ can we do a better search using signals from the eye apart from capturing signals from the mouse and keyboard? ○ We are also interested in Reverse engineering personalization and recommendation, and how information addiction works ○ we want to build a simulation system, run some sessions based on the individual's profile using reinforcement learning about the topic of interest ○ How the system predicts the interests of an individual using predictive algorithms to learn about behavior • Many TV studios use Nielsen TV ratings to measure the audience size. (Annie) ○ We want to reverse engineer how the major companies learn about us, what they are learning about us, and how much information they are collecting about us. • Professor Mostafa wants to reverse engineer user interest tracking so we can put a value, and measure the costs. ○ What is the value of 10 minutes of WhatsApp use? how much information did we leak? How can we measure it? ○ after creating the simulation system, we will create a mobile app that will run in the background of phones. ○ the mobile app will track all the behavior, and put a value about the interaction between Facebook and WhatsApp. ○ we want to find out how much data has been shared.	
Information Addiction	Paris	• Share the proposal with Professor Mostafa. Professor Mostafa asked to remove bullet point and write them as a paragraph. If it exceeds the word limit, it is okay for now. Professor Mostafa will compress if necessary (precis)	
GitHub Analysis	Shamayla	• Will share the data description about the GH Archive	
Intelligent Tutoring System	Annie	• Developing a prototype website for the project	
Scatter Gather	Aravind	• collected 50 more titles from the Digital humanities and literary studies book and created profiles of the authors • created PostgreSQL database • Registered to 4-5 APIs • Professor Mostafa asked to develop a linkage between PATTIE and the database	• Aim is to complete all the task before October 1, 2024
DC Data	Nibras	• Nibras will collect 5000 abstract and populate the database • Convert the database from MYSQL to PostgreSQL • Update the pipeline diagram and share with Professor Mostafa • Identify if there is any API exists for Humanities Index/ ProQuest - https://onesearch.library.utoronto.ca/subjects-a-z	•

Upcoming Conference			• https://www.asist.org/meetings-events/am/am24/ • https://www.dublincore.org/conferences/2024/cfp/ • https://dcdata.institute/