List of IC@N Research Projects and Supervisors

School of Social Sciences

Name of Supervisor	Research Project Description
Assistant Prof Gianluca Esposito **gianluca.esposito@ntu.edu.sg**	**Neuroscience of Social and Affiliative Behaviour** (Undergraduate/ Postgraduate Level) In the Social and Affective Neuroscience Lab we apply physiological, genetic, neuroimaging and behavioural protocols in the context of social interactions. Our strategy consists of assessing participants' psychological traits and stratifying them based on neuro-physiological responses during some social interaction task. Developmental psychologists have widely acknowledged that the quality of an infant's first relationship with its parents affect its social, emotional and cognitive development. In this study, we will be studying different social interactions, particularly that of the infant with the parents. Various other social settings, such as in-group and out-group dynamics, synchrony in joint activity may also be investigated. Neuroimaging techniques will be used to measure and record brain activity of the participants. Project Duration: 5 months (Preferred Jan - Jun period)
Asst Prof Jessica Hinchy jhinchy@ntu.edu.sg	**The Neuroscience of Love** (Undergraduate/ Postgraduate Level) In the Social and Affective Neuroscience Lab we apply physiological, genetic, neuroimaging and behavioural protocols in the context of social interactions. Our strategy consists of assessing participants' psychological traits and stratifying them based on neuro-physiological responses during some social interaction tasks. This project aims to find out if young adults' early relationship with their parent influence their adult relationships. Student will administer questionnaires and collect DNA samples from participants, and more importantly will learn about the neural mechanisms behind romantic love (while doing EEG/ NIRS experiment). Project Duration: 5 months (Preferred Jan - Jun period)
Assoc Prof Alexander Coupe arcoupe@ntu.edu.sg	**Big Data and Neuroscience: an Artificial Intelligence approach** (Undergraduate/ Postgraduate Level) Big dimensionality datasets have become the standard in both Psychology and Neuroscience. With the pervasiveness of sensors that collect data, the collection of behavioural data over the internet, and the employment of datasets for secondary analysis, the application of advanced artificial

	intelligence models on neurophysiological and behavioural measures is gaining importance within the field to generate knowledge from the data. The objective of the internship is to develop a Machine Learning and Neural Networks pipeline for the analysis of both neurophysiological and behavioural measures. Project Duration: 5 months (Preferred Jan - Jun period)
Assoc Prof Joyce Pang Shu Min joycepang@ntu.edu.sg	**Machine learning assessment of motive dispositions** (Postgraduate Level) Using neural network models, we have developed a machine learning process for assessing implicit motives in natural language texts. The current project aims to enhance the machine learning training dataset with more natural language data and to validate the machine learning models. Project Duration: 5 months
Assoc Prof Sulfikar Amir Sulfikar@ntu.edu.sg	**Understanding City Resilience In Asia** **(Undergraduate/ Postgraduate Level)** The Main Objective This Research Seeks To Accomplish Is To Explore The Structure And Culture Of Sociotechnical Resilience Situated In Asian Megacities In Order To Understand How City Resilience Develops And Undevelops Due To The Nature Of Interactions Between Social And Technological Systems. In Light Of The Changing Urbanisation Patterns In Recent Times, There Is A Need For Innovative Research For Resilience Building In The Context Of Cities, Particularly Those In Asia. Thus, This Research Addresses Three Research Questions: (1) How Do Structural (Political, Historical, And Technological) Conditions Allow Institutional And Technical Infrastructures To Inherently Merge In Building Resilient Capacity? (2) What Are The Patterns Of Sociotechnical Configuration That Enable Cities To Withstand Physical Disturbances Of Various Scale And Magnitude? (3) What Roles Do Citizens Play In Contributing To Enhancing Sociotechnical Resilience Of Cities? Project Duration: 2 Months (May- July Period)