SYDE-522 Project Proposal

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Our project topic is "Prediction of Heart Attack with Machine Learning". We choose option 2: empirical evaluation.

This project is relevant to this course and related to AI/ML as the prediction of heart disease can be seen as a classification problem, which is one of the eight AI core problems. Specifically, we will start with preprocessing the dataset with missing value replacement, standardization, normalization and PCA. Then we train machine learning models including Logistic Regression, Support Vector Machine, Decision Tree, Random Forest and basic neural networks (model might change as the course progresses) to predict the presence of heart disease in a certain patient. Finally, we will compare and evaluate each model by complexity, training time and accuracy on testing set.

SVM,

Reference:

Detrano, Robert, et al. "International application of a new probability algorithm for the diagnosis of coronary artery disease." *The American journal of cardiology* 64.5 (1989): 304-310.

Bharti, Rohit, et al. "Prediction of heart disease using a combination of machine learning and deep learning." *Computational intelligence and neuroscience* 2021.1 (2021): 8387680.