**A Foray into machine learning using Strava API.**

Introduction.

The intention of this project is to use machine learning to predict the speed at which a cyclist will traverse use defined route. By collecting route data which is exposed *via* the Strava API, regression models were trained using Azure Machine Learning. These models were deployed as a web service which enable a user to input a number of parameters relevant to a route, and receive an output of the predicted mean time to complete said route.

Initially, data for the purpose of model training was collected by implementing a pseudo-random co-ordinate search to find random routes (or *segments*) and aggregating participant efforts to determine segment statistics, such as elevation change, distance, mean travel time etc. Whilst this data was suitably detailed for the purpose of predicting the speed of an arbitrary cyclist (who is likely to cycle in the area of the route) a user is likely to want a more personalised prediction, which takes their own personal statistics into consideration, i.e age, sex, fitness level etc……..