**Dear Applicant,**

**Please try your best to complete the following task before the interview.** This is intended to be a brief task to examine your data handling skills. Please do not spend more than 4 hours on the task. If you do not manage to complete the task then this is not necessarily a problem since we are most interested in the approaches that you take to complete the task and we will ask about this during the interview. If you have queries then just make notes of these as you progress since again these will provide us with a useful understanding of the way you work at interview.

***Your Task***

We would like you to briefly report the findings of the experiment below, using the datafiles in the folder ‘TakeoverTime.zip’. You will need to process the data files, using whichever software package you choose, to calculate descriptive statistics. We would then like you to brieflyinterpret the processed data (i.e. which conditions seemed to influence performance measures).

***The Experiment****:* **Factors Determining Takeover Time**

A driver experiences a few seconds of automated driving. Unfortunately, there is a hazard which the autonomous vehicle cannot navigate past, so the autonomous system requests the driver to take control of the wheel. We are interested in how rapidly drivers can do this, and whether the type of takeover request alters the rapidity with which the driver may take up control. We manipulated both the type of takeover request (auditory vs visual signal), and whether there was a concurrent distraction task present (no-distraction vs distraction). This gives 4 conditions: 1) auditory, without distraction, 2) visual, without distraction, 3) auditory, with distraction, and 4) visual, with distraction. We tested 20 participants. Each participant experienced 6 trials per condition.

Data was recorded at a rate of 60Hz from the start of the takeover to the end of the trial, a period of exactly 10 seconds. Since we are interested in how reaction time varies by condition, we recorded the wheel angle at each frame. In each .dat file there are 10 seconds of data: time since takeover, steering wheel angle, and a condition flag (either 1, 2, 3, or 4, corresponding to the conditions outlined in the previous paragraph). There are no steering inputs until takeover, so the reaction time is the time at which the first steering input is logged.

Each trial has their own .dat file, coded by the file name in the following format: [participantnumber,’\_’,conditionnumber,’\_’,trialnumber]. So file of the 4th participant, on the 2nd condition, at the 5th trial will be named ‘4\_2\_5.dat’.

The datafiles are in the folder ‘TakeoverTime.zip’. You will need to process the data files, using whichever software package you choose, to calculate descriptive statistics. Choose 2 descriptive statistics which summarise the data well and provide these results as a figure.