

### **Week Starting 19<sup>th</sup> September**

On Tuesday I met with Gabriel and Matti to discuss what needs to be done to finish our project. I was asked to continue developing the final machine learning stage to achieve the best results that I could.

Over the week I've continued improving my current implementation, and have been working on an alternate algorithm, based on proven immuno algorithms, with the notion of context inspired from the dendritic model. Using Clonal Selection I'll build a manageable population that can represent what is normal, and build a replica which will evolve with new gait signature samples. Population drift will then provide a measure of a change in context. If gait signatures can be shown to cluster in unique positions (i.e. the analysis is powerful enough to differentiate different states), I hope to add a classification stage to predict types of gait abnormality as well as simply change.

I aim to have a working implementation of this new algorithm by Monday so that I can demonstrate it to Gabriel and Matti. By this time, I should start to get some real data from the gait signature stage from Matti, and I will begin to see how effective the algorithms (on this real data as opposed to synthesised data), and determine where to go from there in the final week that I have before term starts.

Steven.