**Hannes Plan of Work**

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| 1 | Read papers and prepare a **2 page literature review** on what is “one shot imitation learning”, “zero-shot imitation learning”, and “few-shot imitation learning” in robotics. You can start with this paper: <https://arxiv.org/pdf/1703.07326.pdf> Look at its literature review and find similar papers. |  |
| 2 | Send a **first draft** of the literature review. I will send you my feedback on the 21st August before I go away until the 26th August. | 20th August 2018 |
| 3 | Produce a revised document of the literature review based on the feedback. | 24th August 2018 |
| 4 | Setup the necessary software to run python. | By 24th August |
| 5 | Fully familiarise yourself with how to use Quentin’s framework. | By 24th August |
| 6 | Short update Report on Progress. | 30th August |
| **7** | **Literature Review document is complete.** | **30th August** |
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| 8 | Experiment with some code in Python. You can start running this or another recent one which you prefer (let us know which one first): <https://github.com/pathak22/zeroshot-imitation> | By 7th September |
| 9 | Embed the code into Quentin’s Framework. Report on how you did this and get guidance from Pedro’s on how to update the Project’s Github repository. | **15TH September** |
| 10 | Perform experiments for imitation learning using the entire framework. | **20th September** |
| 11 | Report the results of the experiments (repeat the rope manipulation task **plus** another task different to the paper if you have time) | 25th September |
| 12 | Produce a report   * Framework Description – Details of how the algorithm was embedded in the framework. * Simulation Task Descriptions * Simulation Results of each task * Conclusion * References | Version 1 due  **25th September** |
| 13 | Submit Final report | **28th September** |

**Literature Review -** Describe as many recent papers as possible (2016-2018) on the topic of “one shot imitation learning in robotics”, “zero shot imitation learning in robotics”, “few shot imitation learning in robotics”.Other keywords to search for: One shot learning by demonstration, imitation learning.

<https://arxiv.org/pdf/1703.07326.pdf>

Code to start off with

<https://github.com/pathak22/zeroshot-imitation>

<https://pathak22.github.io/zeroshot-imitation/>