

# Week 3 - HMI Research Group

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## Summary

This week consisted of implementing algorithms and data structures to predict and generate responses for the NAO robot. Automated gesture generation succeeded (in very elementary stages), with naive vector similarity implemented thus far to categorize words and phrases.

## Points

- Parsed gesture data from Aldebaran documentation into `.csv` files.
- Used `.csv` files to generate reference data structures for automated gesture generation.
- Used `spaCy`'s large vocabulary corpus to quantify 9 different classes of “sentiments” as based on gesture tags in Aldebaran documentation.
- Trained a multilayered perceptron neural network model (from `sklearn` library) on the data generated from `spaCy`'s corpus.
- Took a look at NAO and how it works.
- Successfully tested very basic features in Choregraphe and `cmd/anaconda`.

## Plans

- Make scripts more efficient.
- Optimize the algorithm for automated gesture generation.
- Optimize the neural network model further for better predictions.
- Write a Python script that will *continually generate and send* gestures and replies to NAO as the user inputs text.
- Learn `nltk`, as the `naoqi` Python library doesn't work under OS X, but `spaCy` doesn't work under Windows 10 and Python 2.7. Only `nltk` is compatible universally.