

Forecasting Proposal

Jeremy Garcia

Travis Tanaka

Makiko Kuwahara

Keoni Davey

What is our job?

- We predict the future
- There are many people who work on the weather box
 - hardware
 - software
 - firmware

The weather box then creates data for us. We use these numbers to predict future values (Using 99% magic and 1% Mathematics) and flags for certain things like to turn off generator or not.

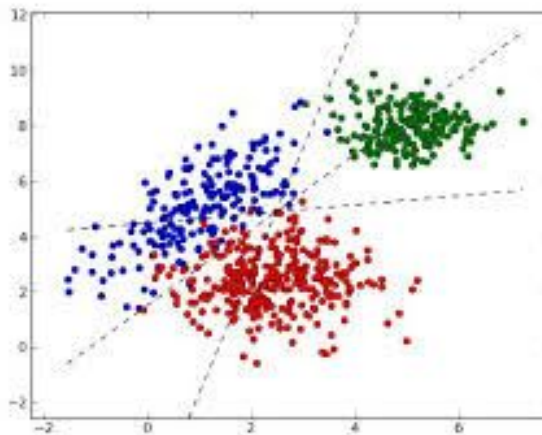
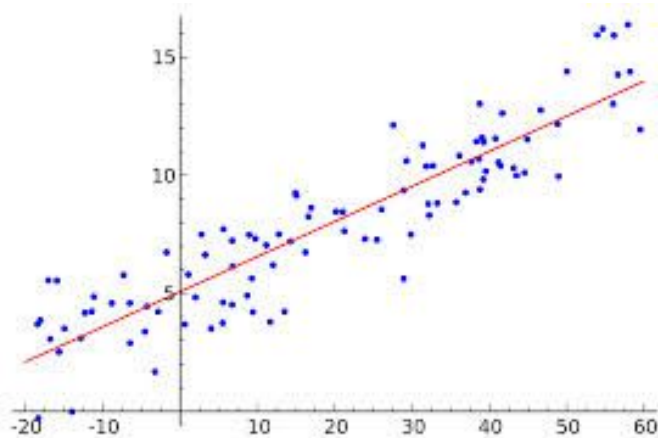


MOTIVATION?!



What is forecasting?

- We use machine learning techniques
 - Linearization
 - Choosing the appropriate feature space
 - logistic regression / classification



Materials we need

- Licenses for Python & R
- 4 professional Matlab licenses
- \$2,000 of hardware of arduino & Microprocessors
- 4 windows surfaces + 1 for backup



Materials we need

- ~~Licenses for Python & R~~
 - ~~4 professional Matlab licenses~~
 - ~~\$2,000 of hardware of arduino & Microprocessors~~
 - ~~4 windows surfaces + 1 for backup~~
-
- Just kidding
 - Open source programs iPython and R.
 - No actual building, just signal and data analysis



Goals we are shooting for

- Learn iPython
- Learn basics of Machine Learning
- Implement what we learned above under supervision of our advisors
- Enjoy the benefits of open-source (BOO Yah MATLAB)

Very overzealous goals

- Program a dynamically learning algorithm that will automatically predict, update linear coefficients and trim/add to the feature spaces needed for forecasting to all the weather boxes

Problems we are expecting

- Time scheduling and matching
- Machine learning and artificial intelligence requires a lot of math.
- None of us our CEng { So: We != programming esque;
- Data analysis techniques, though on paper work doesn't guarantee any pretty results.
- A lot of data = A lot of run time
 - and I am not a fan of running.

Problems we are expecting

- Time scheduling and matching
- Machine learning and artificial intelligence requires a lot of math.
- None of us our CEng { So: We != programming esque;
- Data analysis techniques, though on paper work doesn't guarantee any pretty results.
- A lot of data = A lot of run time
 - and I am not a fan of running.

Current progress so far

Questions?

