Summer of Aaron

Objectives

Learn some:

- linux
- Java
- Python
- Linear algebra
- Adaptive filters
- Databases
- git
- Document

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- Install virtual box
- Install linux Mint
- Popular linux commands:
  - cd, ls, ps, mv, cp, rm, grep, find, |, less, regex
- Install pycharm
- Install python libraries (anaconda)

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- Install Eclipse
- Install mysql for windows
- Write a csv parser
- Junit tests for parser
- Write class to connect to db
  - Batch load csv to db
  - Stream csv lines to db

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- Basics of python
- Write txt, csv parser
- Write json AIS class
- Plot the json
- Numpy, random numbers, matrices

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- Basics matrix algebra
- Derivatives of matrices
- Ordinary least squares
- (code OLS in python)

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- Basic adaptive filter
- Square root algorithm (python)
- Moving average filter (python)
- Maybe Kalman filter (python)

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- Jdbc connection
- Basic sql
- Create tables
- Update, delete, query

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- Create public github profile
- Make .md file to document daily activities
- Push all code to project

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- .md file of daily / weekly activities
- Powerpoint brief
- Basic latex equations for math learned