

## Plan for the week 1 (Oct. 30 - Nov.4)

- Hung's Instructions
  - - sign up for MOOC course on self-driving car (SDC)
  - - do a little survey on state-of-the-art in 3D pose estimation from monocular camera (both still image and video based methods) for computer vision in general and SDC in particular
  - - play with existing SDC simulators
  - - read deepCNN, deep ResNet, and LSTM tutorials and play with the provided code. For example, have a look at this page <http://colah.github.io> and this page <https://medium.com/towards-data-science/an-overview-of-resnet-and-its-variants-5281e2f56035>
  - - Create a github repo (using free student account for private projects) and invite me to join: <https://github.com/gandalfvn>
  - - Whatever I assign you to read, code, or study: try to produce something out of it so as to use in your thesis later, e.g., write a summary/review of the methods/papers in latex. Commit your progress to github weekly before meeting with me.
- Resources found
  - CV
    - Intro to Computer Vision
      - <https://classroom.udacity.com/courses/ud810>
  - SDC
    - MIT 6.S094
      - <http://selfdrivingcars.mit.edu/>
  - CV + SDC
    - Computer Vision for Autonomous Vehicles: Problems, Datasets and State-of-the-Art
      - <https://arxiv.org/pdf/1704.05519.pdf>
  - Neural Network
    - colah's blog
      - <http://colah.github.io>
    - An Overview of ResNet and its Variants
      - <https://medium.com/towards-data-science/an-overview-of-resnet-and-its-variants-5281e2f56035>
    - NN for ML - coursera course

- <https://www.coursera.org/learn/neural-networks>
- 3D pose estimation based on monocular camera
  - 3D Bounding Box Estimation Using Deep Learning and Geometry
    - <https://arxiv.org/pdf/1612.00496.pdf>
  - Deep MANTA: A Coarse-to-fine Many-Task Network for joint 2D and 3D vehicle analysis from monocular image
    - <https://arxiv.org/pdf/1703.07570.pdf>
- AI - udacity
  - intro to AI
    - <https://classroom.udacity.com/courses/cs271>
  - AI
    - <https://classroom.udacity.com/courses/ud954>
- My working plan
  - Theoretical foundations
    - Courses: one lecture per day
      - Intro to Computer Vision
      - MIT 6.S094
      - Neural Network
  - Papers for the first week 1 (Oct. 30 - Nov.5)
    - Computer Vision for Autonomous Vehicles: Problems, Datasets and State-of-the-Art
    - 3D Bounding Box Estimation Using Deep Learning and Geometry
    - Deep MANTA: A Coarse-to-fine Many-Task Network for joint 2D and 3D vehicle analysis from monocular image
  - explore more at the spare time