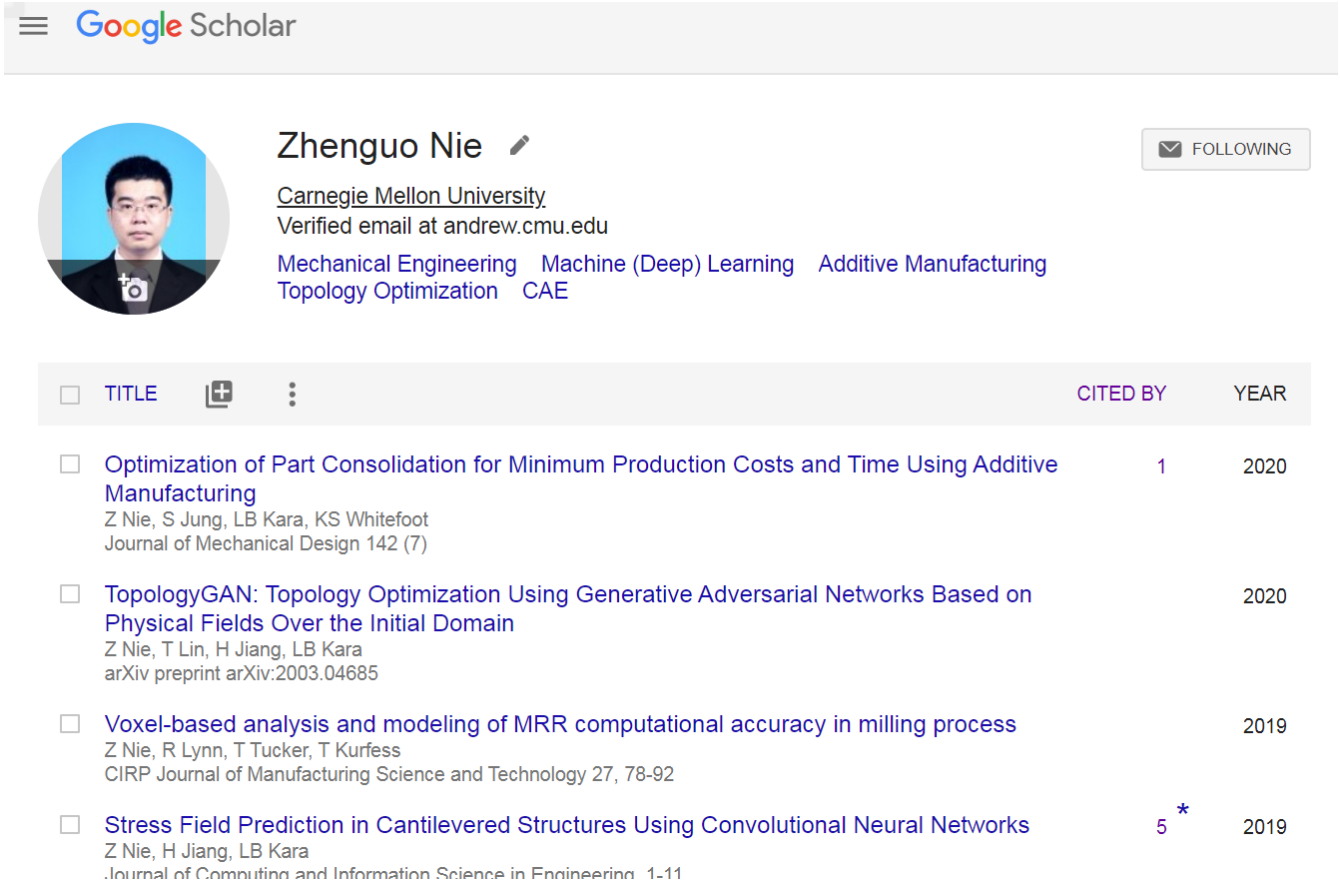
Mentor: Dr. Zhenguo (Gavin) Nie

- Postdoc Researcher at Carnegie Mellon University
- *zhenguon@andrew.cmu.edu*
- *zhenguonie@gmail.com*
- Bachelor degree on MSE (Materials Science and Engineering) from Shandong University
- Dual master degree on ME (Mechanical Engineering) and CS (Computer Science) from Tsinghua University
- Ph.D. degree on ME from Tsinghua University

Research at CMU

- Working on AI and Deep Learning on engineering applications.
- Current Research: CNN, GANs, GNN; DRL, etc.



Teaching at CMU

- https://www.coursicle.com/cmu/courses/MEG/24281/

Coursicle

MEG at CMU

MEG 24281 - Introduction to Scientific Computing

Description
This course provides an introduction to scientific computing with Matlab for engineers. The course introduces the basics of Matlab syntax and programming, data analysis, visualization, curve fitting and interpolation, symbolic computation, differential equations, and debugging. The use of Matlab in solving mechanical engineering applications will be demonstrated.

Credits
2

Recent Professors
Mohammad Saleh, Zhenguo Nie, Hugo Penelas

Schedule Planner
Add MEG 24281 to your schedule

Recent Semesters
Spring 2020, Fall 2019, Spring 2019, Fall 2018

Offered
W

Avg. Sections
2

Mentor Session Goal

- Recitation
- Implementation
- Reinforcement

Mentor Session 1

- Python Installation
- Python IDE
- Python Tutorial – Part 1

Python & Anaconda

- 1. Official Python
- 2. Official Python + PyCharm
- 3. Anaconda: Window, Linux, Mac

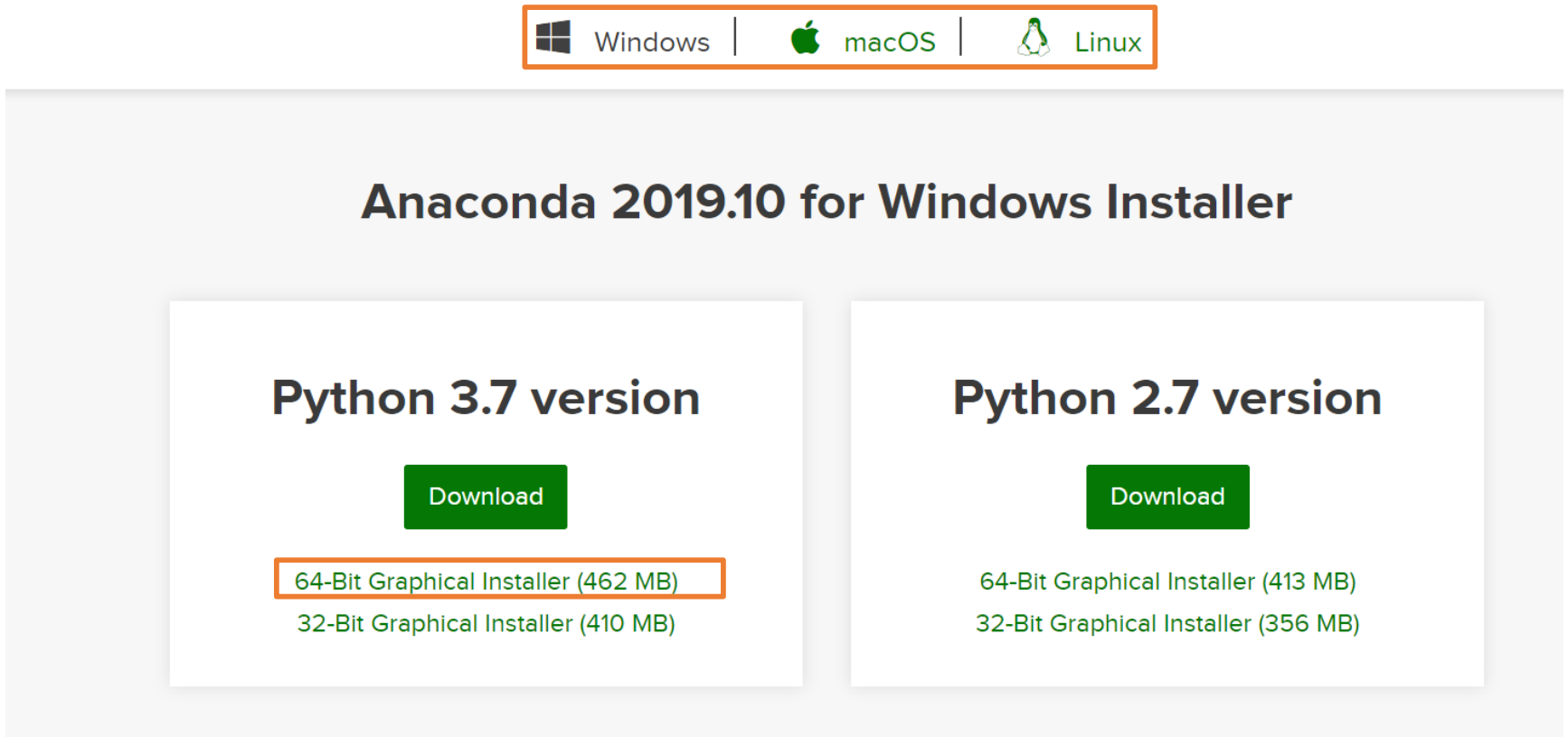
Python + PyCharm

- https://www.python.org/
- The up-to-date version: 3.8.2

- https://www.jetbrains.com/pycharm/
- Free for Education.
- zhenguon@andrew.cmu.edu
- zhenguonie@gmail.com

Anaconda

- https://www.anaconda.com/



IDE(Integrated development environment)

Jupyter Notebook

Spyder

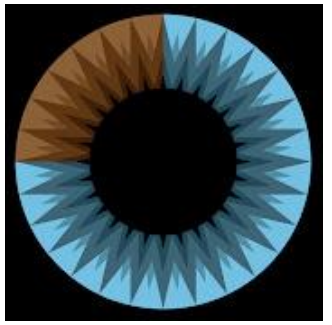
VS Code

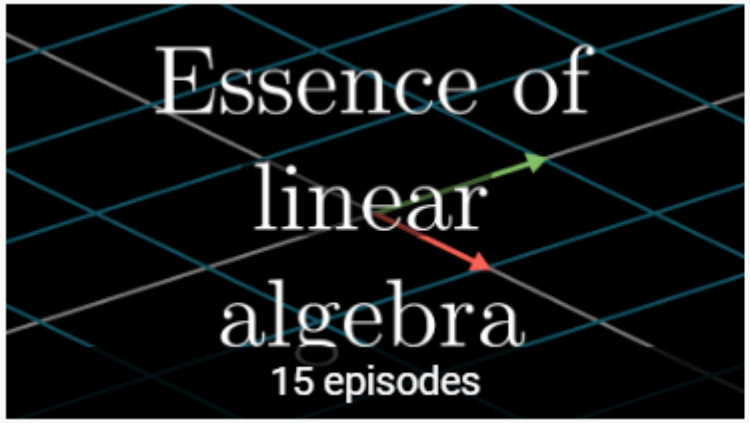
PyCharm

Editor

- Notepad
- Notepad++
- Sublime
- UltraEdit
- EditPlus
- etc.

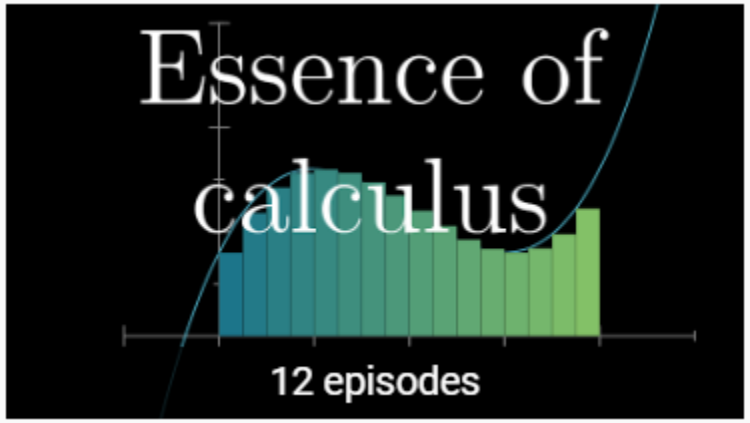
YouTube 3Blue1Brown





Essence of linear algebra

3Blue1Brown



Essence of calculus

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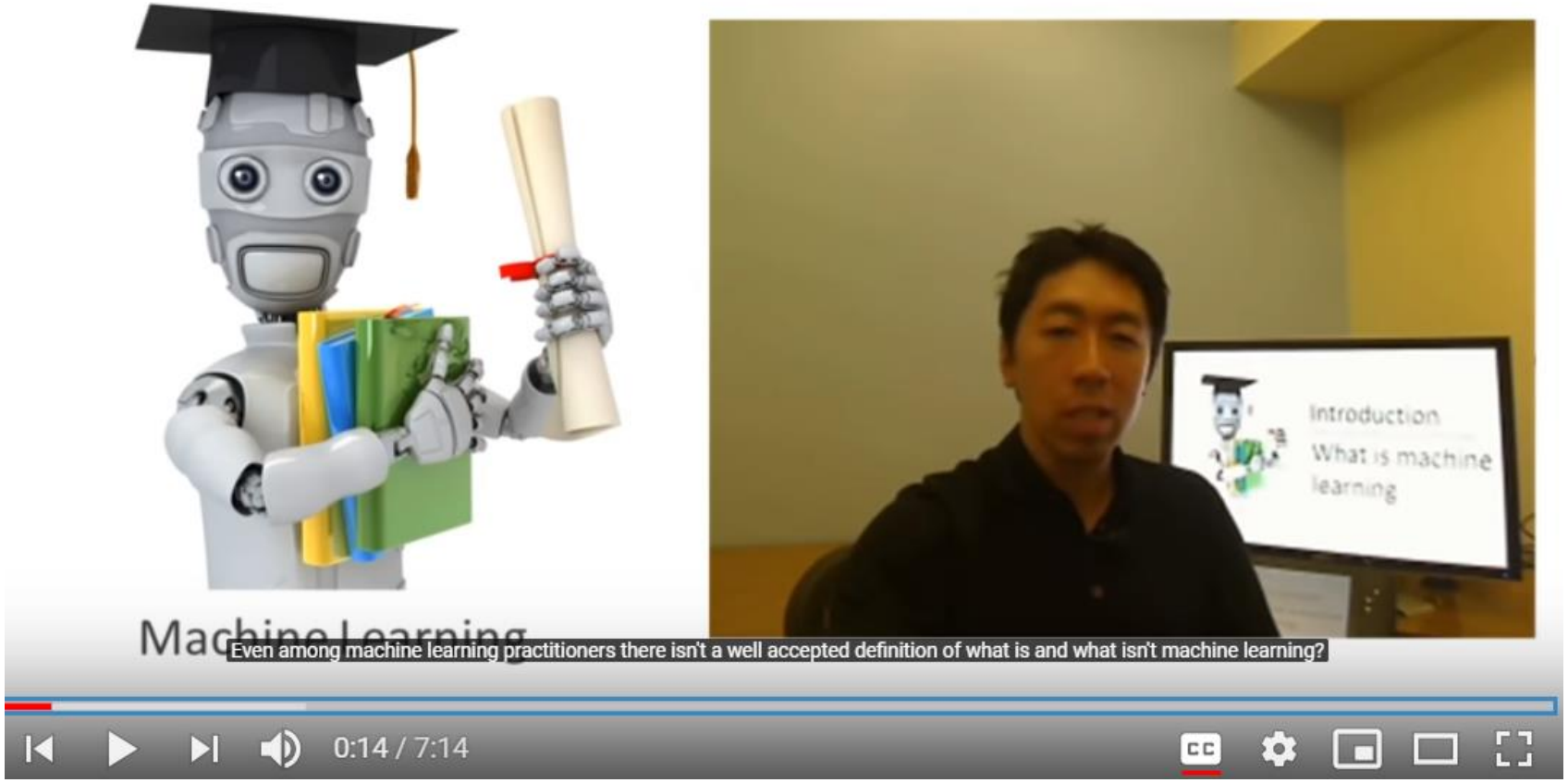
YouTube: Machine Learning | Andrew Ng



Download Academic Papers

- 1. Search it in Google Scholar: https://scholar.google.com/
- 2. Open the webpage, and copy the website
- 3. Find it in SCI-Hub: https://sci-hub.tw/

ML Packages for Python

- Tensorflow or PyTorch
- Numpy
- SciPy
- Pandas
- Matplotlib
- Scikit-learn

Proxy (Flip the wall)

- https://xiyou4you.us/r/?s=12491373

Google
Google Scholar
YouTube