CSCE-50103
Full-Stack Deep Learning

Class Overview

Spring 2025

Prof. Khoa Luu

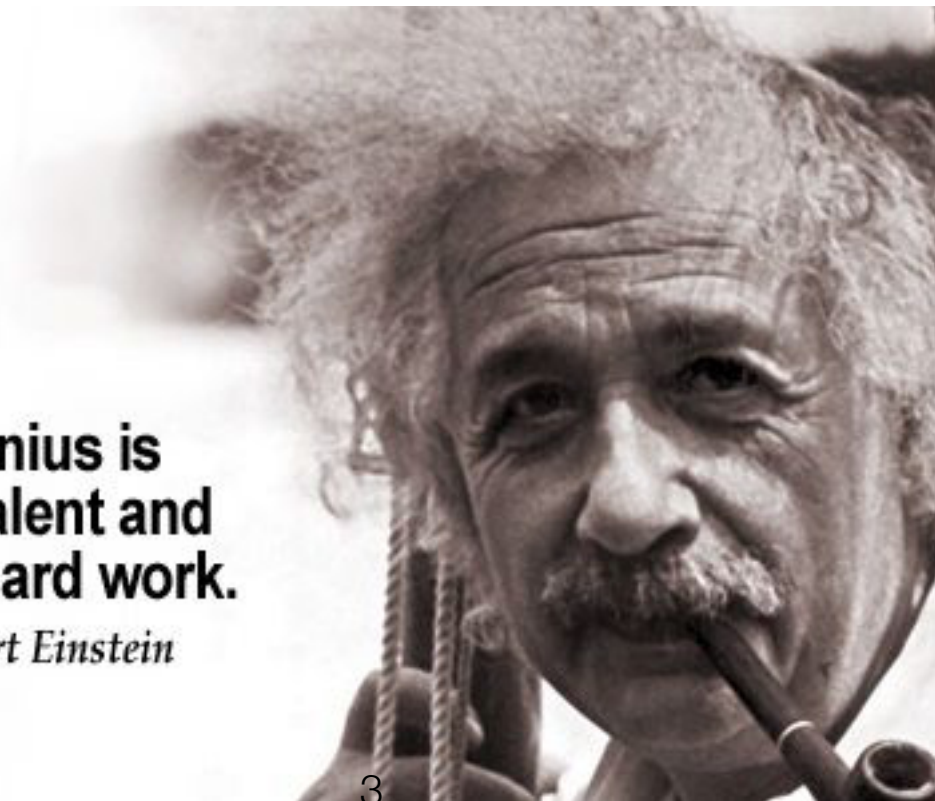khoaluu@uark.edu

Reading
Textbook - Research Papers

a lot of reading
a lot of questions
a lot of discussion

Assignments - Projects

a lot of programming
hours and hours of programming
days and days of debugging

**Genius is
1% talent and
99% hard work.**

Albert Einstein

Class Info

- Course Website:

  https://uark-cviu.github.io/classes/csce50103/

- Homework/Project Submissions: Blackboard

Class Info

- Instructor: **Prof. Khoa Luu**

  Website: https://engineering.uark.edu/directory/profile/uid/khoaluu/name/Khoa+Luu/

  Email: khoaluu@uark.edu

- Co-Instructor: **Dr. Thanh-Dat Truong**

  Website: https://truongthanhdat.github.io/

  Email: tt032@uark.edu

Class Info

- Time: Tuesdays, Thursdays, 9:30 A.M - 10:45 A.M

- Place: JBHT Sr Des/Capstone - Room 0239

- Lab: TBA

- Office hours: Tuesdays, 12:00 P.M - 12:30 P.M

- Office Location: JBHT - Room 521

Course Requirements

- Four (individual/group) Assignments

- Midterm Exam

- Final Project (Presentation + Program + Report)
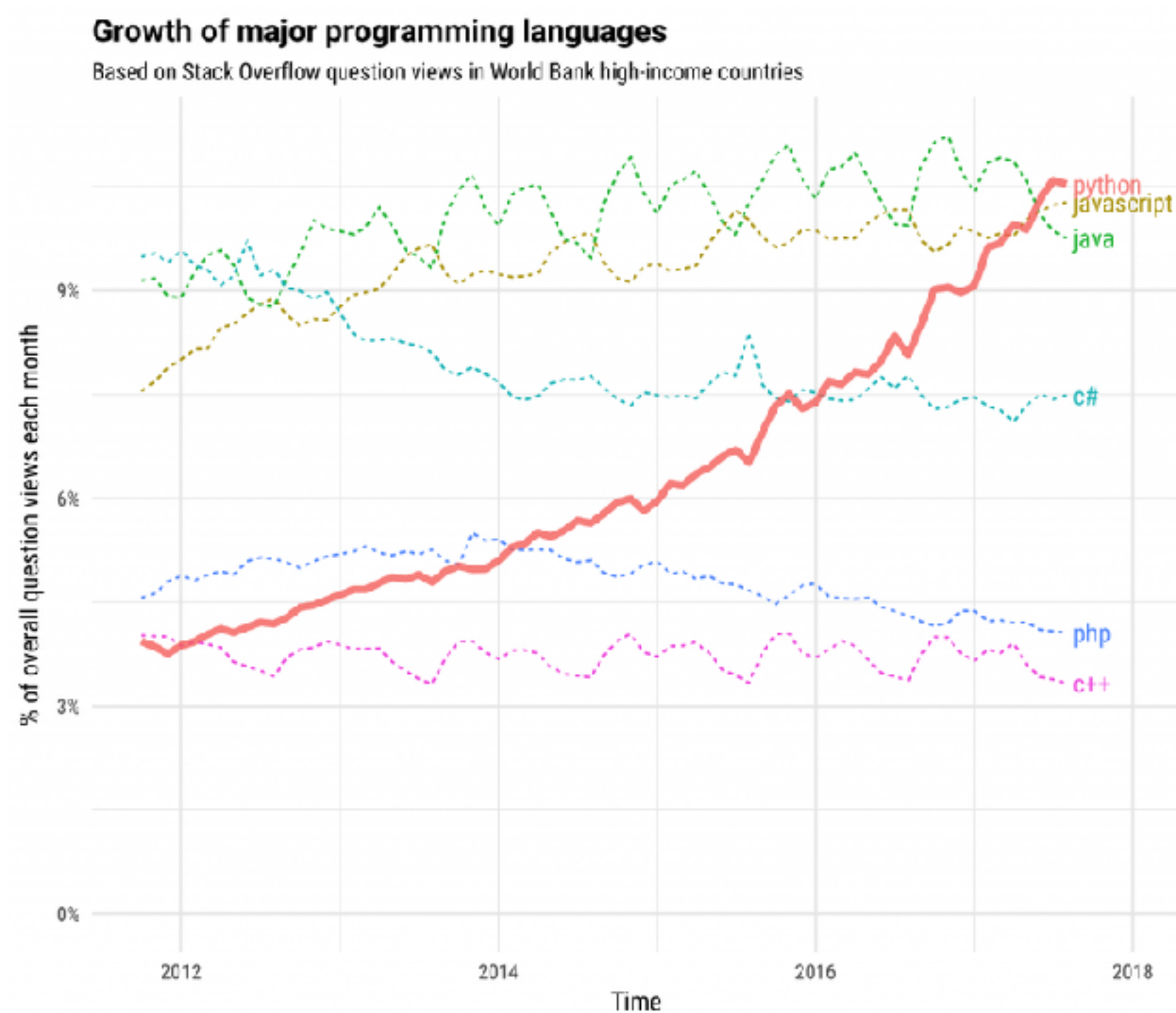
Programming Languages

Any, but prefer:

- Python (Highly recommend)

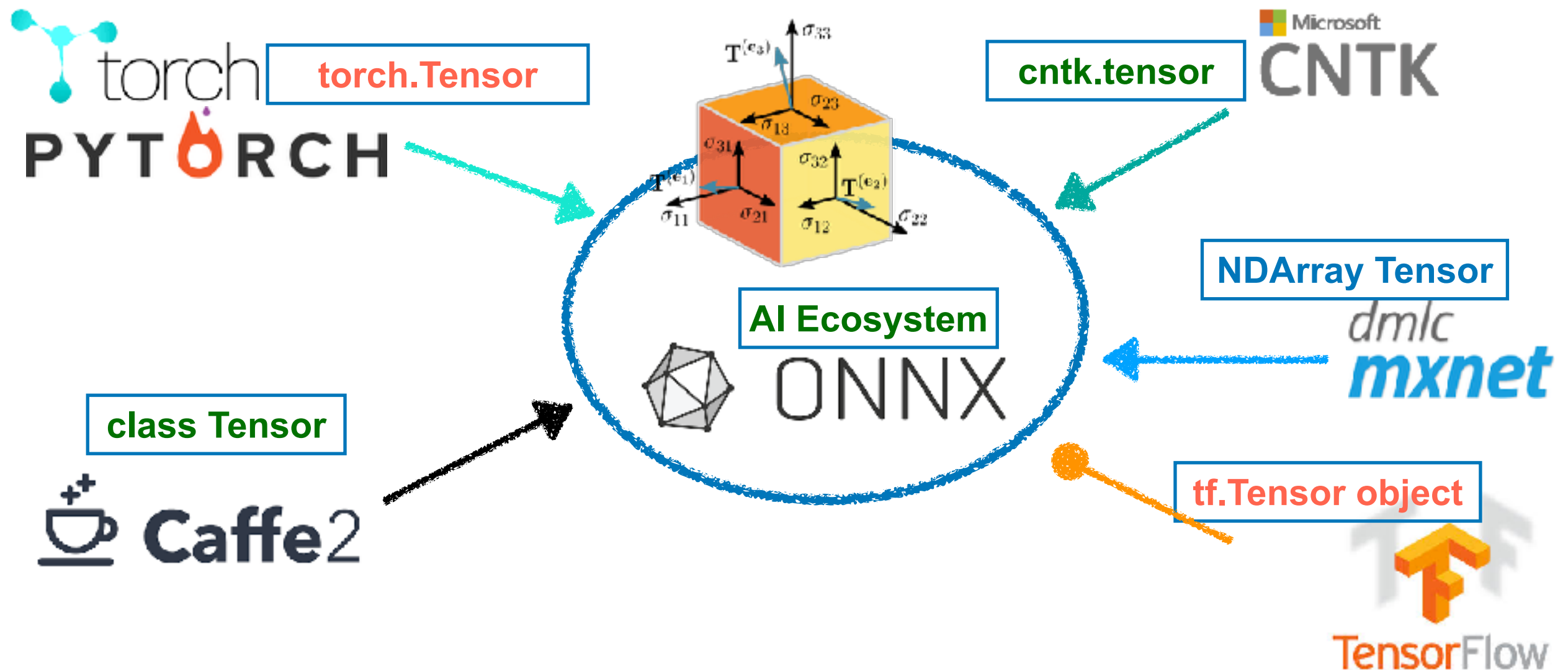- C/C++ (OpenCV)

- Matlab

- Java

Why?

Programming Languages

Growth of **major** programming languages
Based on Stack Overflow question views in World Bank high-income countries

Deep Learning Framework - Python

- Most recent Deep Learning Frameworks (Computer Vision and Image Processing) fully support Python

torch.Tensor

cntk.tensor

AI Ecosystem

ONNX

NDArray Tensor

class Tensor

tf.Tensor object

Sarah Bird, Dmytro Dzhulgakov. "Announcing ONNX 1.0 – An open ecosystem for AI." *Microsoft, Facebook, Amazon*, December 2017.

Grading

- Class Participation: 2%

- Assignments: 40%

- Midterm Exam: 18%

- Final Project: 40%

Approach

- Grading based on absolute scale

- Getting an A v.s mastering the materials

- Take advantage of extra credits

- Build your resume with meaningful project experience

Late Days

- 5 late days in total

- 3 days per assignment/project maximum use

- Use them wisely (save them for final project!)

Course Materials

- Check the website <u>frequently</u>

- Update forum discussions (Be active)

- Use office hours