Algorithms and Data Structure

Instructor: Meng-Fen Chiang

COMPCSI220: WEEK 7

https://ankechiang.github.io

Course Description

- The course covers the following main topics
  - Introduction to data structures, common abstract data types and their implementations.
  - Asymptotic complexity analysis. Sorting and searching algorithms.
  - Depth-first and breadth-first search and graph applications.

- It is a standard course for CS majors worldwide and has been for decades. It is a “theory” course, but we also assess ability to implement these abstract structures and algorithms in programming projects.

Teaching Team

- Meng-Fen Chiang (The University of Auckland)
  - Lecture content: Algorithms
  - Please contact me for all issues involving my lectures and tutorials
  - Email: meng.chiang@auckland.ac.nz

- Sha Hu (Southwest University)
  - Lab Project
  - Email: husha@swu.edu.cn

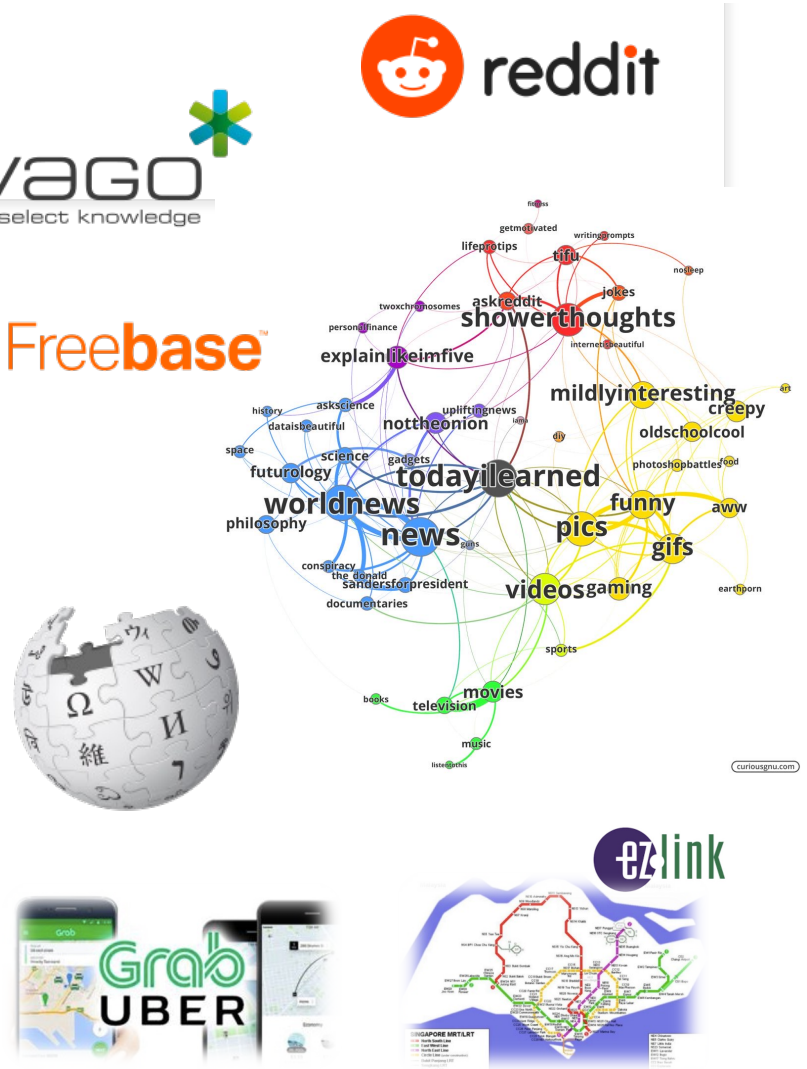
- Ping Wang (Southwest University)
  - Lab Project
  - Email: wangping@swu.edu.cn

About Me

- Dr. Meng-Fen Chiang (The University of Auckland)
  - Home page: https://ankechiang.github.io/
  - Email: meng.chiang@auckland.ac.nz
  - Office hours: zoom call arrangement

- Short Bio:
  - PhD. : Computer Science, National Chiao Tung University, Taiwan
  - MSc.: Computer Science, National Chengchi University, Taiwan
  - BSc.: Computer Science, National Chengchi University, Taiwan

- Research Interest
  - Knowledge Graphs Reasoning
  - Natural Language Processing
  - Urban Computing



Timetable

- Lectures
  - 36 hours of lecture & tutorial
- Tutorials
  - Announced on WeChat
  - Usually after finishing each topic
- Zoom link
  - Announced on WeChat

COMPSCI 220 11th, October - 29st, November			
WEEK #	DATE	TIEM	ROOM
WEEK 7	TUE [11th, October]	08:00-10:45	ROOM: 26-0511
	WED [12th, October]	08:00-10:45	ROOM: 26-0305
WEEK 8	TUE [18th, October]	08:00-10:45	ROOM: 26-0511
	WED [19th, October]	08:00-10:45	ROOM: 26-0305
WEEK 9	TUE [25th, October]	08:00-10:45	ROOM: 26-0511
	WED [26th, October]	08:00-10:45	ROOM: 26-0305
WEEK 10	TUE [1st, November]	08:00-10:45	ROOM: 26-0511
	WED [2nd, November]	08:00-10:45	ROOM: 26-0305
WEEK 11	TUE [8th, November]	08:00-10:45	ROOM: 26-0511
	WED [9th, November]	08:00-10:45	ROOM: 26-0305
WEEK 12	TUE [15th, November]	08:00-10:45	ROOM: 26-0511
	WED [16th, November]	08:00-10:45	ROOM: 26-0305
WEEK 13	TUE [22th, November]	08:00-10:45	ROOM: 26-0511
WEEK 14	TUE [29th, November]	08:00-10:45	ROOM: 26-0511

Course Schedule

- Week 7: Algorithm Analysis
- Week 8-11: Sorting, Searching, Graphs
- Week 12: Graph Representations, Graph Traversals (Mid-term Exam)
- Week 13-14: Graph Properties, Shortest Path
- Week 14: Minimum Spanning Tree, other Applications

Learning Resources

- Slides and lecture recordings
- Textbooks, reading materials
  - “Algorithms and Data Structures” by Jonathan Klawitter, David Welch and Mark C.Wilson.
  - “Introduction to Algorithms” by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein.
- Discuss with peers. Please feel free to discuss using any platform with your friends.

Lectures and Tutorials

- Zoom Lecture Link:
  - https://auckland.zoom.us/j/96133910370?pwd=dFZBamd0Y1pDdllpd0Y3OW1jb2kzQT09
  - Meeting ID: 961 3391 0370
  - Passcode: 351802

- Course Website (Daily Update):
  - https://ankechiang.github.io/cs220_swu.html
  - Lecture notes
  - Lecture recordings

Assessment Overview

- Theory: **Mid-Term Exam**
  - 2 hrs in-class Exam
  - 15th Nov. (week12)
  - Covering topics in week7-11

- Theory: **Final Exam**
  - 2 hrs in-class Exam
  - At the end of course
  - Covering the entire course

- **Lab Projects**: 12 hours

How to Avoid Plagiarism

- Always do individual assignments by yourself.
- Never loan your code to another person.
- Never get code from a tutors. Several tutors have been caught giving the same code to all their students.
- Always reference the source for text you copy as part of the answer to an assignment.