Algorithms and Data Structure

Instructor: Meng-Fen Chiang

COMPCSI220: WEEK 8

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

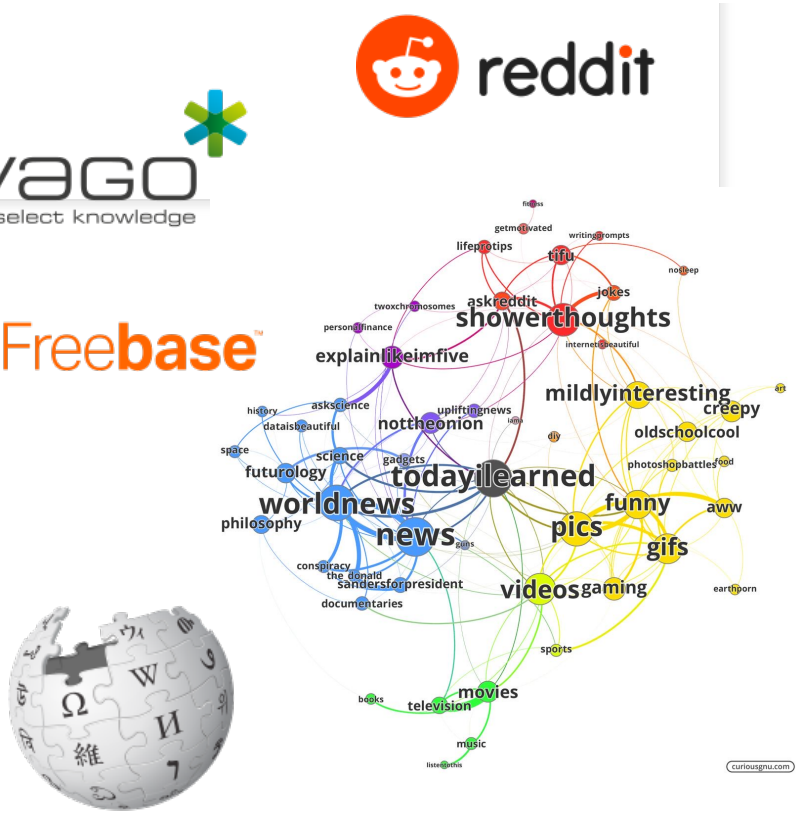
- Ping Wang (Southwest University)
  - Lab Project
  - Email: wangping@swu.edu.cn

About Me

- Dr. Meng-Fen Chiang (The University of Auckland)
  - Home page: https://ankechiang.github.io/
  - Email: meng.chiang@auckland.ac.nz
  - Office hours (Tue 3-4pm): https://auckland.zoom.us/j/5252835048

- 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
  - Question Answering over Knowledge Graphs
  - Urban Computing



Timetable

- Lectures
  - 12 hours of lecture & tutorial
- Tutorials
  - Provided beforehand on WeChat
  - Usually after finishing each topic
- Zoom link
  - Provided beforehand on WeChat

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year 2021-2022 semester 1 week 8-12			COMPSCI 220 26th, October -23st, November				
	classes	**times**	**Monday**	**Tuesday**	**Wednesday**		**Thursday**
AM	1	08:00-08:45	Room:27-0206 (1st, 8th, 15th, November)	Room:27-0206 (2nd, 9th, 16th, November)	Room:27-0206 (3rd, 10th, 17th, November) Room:27-0206		
	2	08:55-09:40					
	3	10:00-10:45				Room: 26-0410 (27th, Oct, 24rd, Nov)	
	4	10:55-11:40					
NOON	5	12:10-12:55					
	6	13:05-13:50					
PM	7	14:00-14:45					
	8	14:55-15:40					
	9	15:50-16:35					
	10	16:55-17:40					
	11	17:50-18:35					
NIGHT	12	19:20-20:05					Room:27-0206 (4th, 11th, 18th, November)
	13	20:15-21:00					
	14	21:10-21:55					

Course Schedule

- Week 8: Algorithm Analysis
- Week 9: Sorting, Searching, Graphs
- Week 10: Graph Representations, Graph Traversals (Mid-term Exam)
- Week 11: Graph Properties, Shortest Path
- Week 12: 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.

Assessment Overview

- Theory: **Mid-Term Exam**
  - 2 hrs in-class Exam
  - 11th Nov. (week10)
  - Covering topics in week8 and week9

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

- **Lab Projects**: 12 hours

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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.