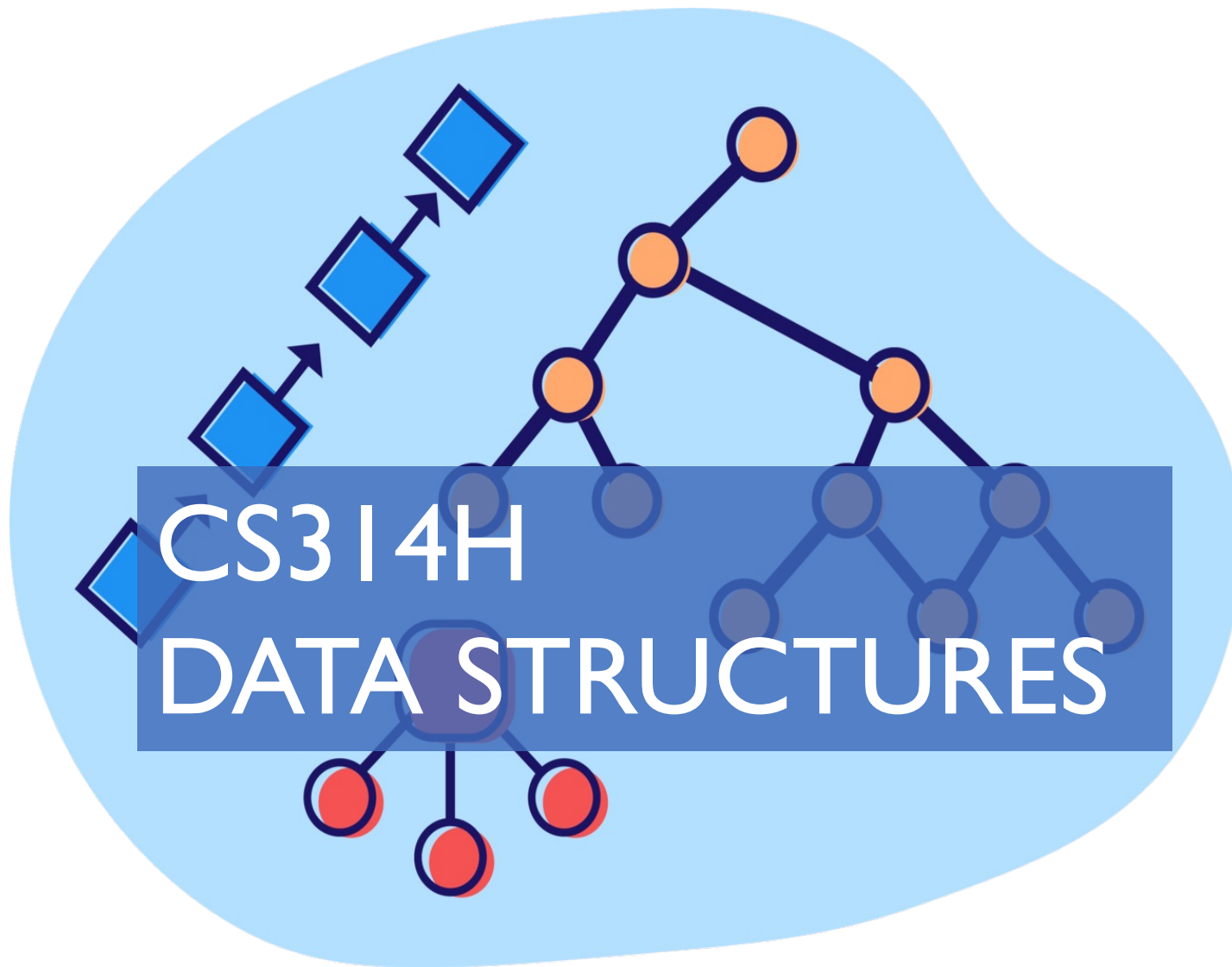




Lecture 01: Introduction

Mikyung Han



Please, interrupt and ask questions **AT ANY TIME !**

My Journey



Seoul Korea
Until 2005

UT Austin, TX
2005 - 2011

Microsoft, WA
2011 - 2015

CBU, CA
2015 - 2020

UT Again!
2021 - Present





2025 Spring Edition



Course Staff

- Mikyung Han
- Andrew Li
- Andy Li
- Ojas Phirke

All reachable via cs314hcsb-staff@cs.utexas.edu

Ojas Phirke

Hi everyone, I'm Ojas!

I'm a senior in CSB, and I was a UGCA for Honors Data Structures last year.

I'm interested in math and computers, especially cloud and data technologies.

An interesting fact about me is I enjoy making music!



Andrew Li

Hey I'm Andrew, and I'm a sophomore in CSB from College Station, Texas.

I enjoy distance running, playing games, listening to music, and cooking more recently.

This summer, I interned at MITRE in Boston and had a great time watching the Red Sox, walking through the city, and trying new food.



Andy Li

Hey, I'm Andy Li, and I'm a CSB junior from Katy, TX.

I enjoy volleyball, climbing, ping pong, and playing video games (Silksong anyone 🙄🙄).

This summer I went to Japan to mess around for a bit and then PayPal SWVE internship.



This is going to be a great class!

Why?

Because of YOU!

- Turn to someone whom you've not met or talked much yet, and introduce yourself 😊

AI generates code,
designs algorithms, and debugs
much faster than humans.

Should I even take this course?

Turn to your neighbors and discuss! 😊

Chat GPT

should I still take data structure class when AI can generate both codes and algorithms and debug much faster than human?

That's a very fair question in 2025 — AI tools can indeed generate, optimize, and debug code (even complex algorithms) much faster than most humans now.

But the short answer is:

Yes, you should still take a data structures class — especially if you're serious about becoming a strong software engineer, computer scientist, or even an advanced AI user/builder.

Here's why:

MS Copilot

should I still take data structure class when AI can generate both codes and algorithms and debug much faster than human?



That's a great question, Mikyung—and one that many students and educators are thinking about right now.

Even though AI can generate code, algorithms, and debug quickly, **taking a data structures class still offers significant value.** Here's why:

Google Gemini

Should I still take this course when AI can generate code, design algorithms, and even debug much faster than humans?



That's an excellent and very timely question. It's a concern many people have as AI becomes more integrated into our lives and work. The short answer is: **Yes, you should still take the course.**

Here's a more detailed breakdown of why a computer science education, or a similar course, is more valuable than ever in the age of AI:

Course Objectives

- Learn data structures

Course Objectives

- Learn data structures
- Obtain programming skills

Course Objectives

- Learn data structures
- Obtain *better* programming skills

Course Objectives

- Learn data structures
- Obtain better programming skills
- Learn to **critically think**

Microsoft CEO Satya Nadella

"The core responsibilities of structuring problems and designing coherent systems will fall to humans. So, the ability to think computationally, to have that fundamental systems design thinking, is the premium."

While AI can accelerate and automate many tasks, the fundamental skills of a human remain paramount.

Course Objectives

- Learn data structures
- Obtain better programming skills
- Learn to critically think
- Learn to **challenge yourself**

Learning to Ride a Bike

- Who will learn the best?



If there is no possibility of failing, no learning

- We learn by failing in a controlled manner
- How is it implemented in our class?
 - Smaller percentage assigned to earlier HWs.
 - Smaller frequent quizzes rather than one big exam.
 - Contents and HWs get gradually harder
- How can you implement this in your learning?
 - Ask questions!

We will learn the value of failing, struggling, and persevering together

- No judgement zone

Don't be afraid to challenge yourself!

Syllabus stuff

Workload graph

Grading

- **Class participation 3%**
 - Reading
 - Attendance/In-class Exercises
 - Karma (maybe)
- **Programming Assignments 47%**
 - 7 of them
 - Going exponentially harder
- **Exam 50%**
 - Exam 1: 15%
 - Exam 2: 15%
 - 5 Quizzes: 20%

Exams: Report ASAP for any conflicts

- Exam 1 : Oct 20 Monday 6 PM – 9 PM (No class at 11am)
- Exam 2: Oct 8 Monday 6 PM – 9 PM (No class at 11am)
- 5 Quizzes
 - Quiz 1: Sep 10 at 7pm (GDC 4.304)
 - Quiz 2: Sep 22 at 11am (in-class)
 - Quiz 3: Oct 13 at 11am (in-class)
 - Quiz 4: Nov 7 at 11am (in-class)
 - Quiz 5: Nov 19 at 11am (in-class)

Programming assignments

- About 7
- Lots of fun 😊

Karma

- What is Karma?
- What is Karma in this class?

Karma

- What is Karma?
- What is Karma in this class?
- Not for grades' sake but for your sake

This week's Karma

Come to my office hours by next week

- Mon/Wed 10 AM - 10:50 AM @ GDC 6.704
- Or by appointment

Discussion of the Day

1: What is the fundamental difference between building software and building a building or a bridge?

2: Which one is more difficult?

- Talk with your neighbors!
- Find 10+ fundamental differences between them
- Pick your position on “which one is harder” and prepare for a battle debate 😊

Software construction vs physical construction