

CS540 Introduction

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Plan for the first lecture

- Introduction to “Introduction to Artificial Intelligence”
 - Navigating the online course
- Python overview
- Uninformed search

Why learn about Artificial Intelligence (AI)?

- State-of-the-art AI and machine learning is pretty impressive
- Example: Open AI GPT-3: [Giving GPT-3 a Turing Test](#)

Q: What is your favorite animal?

A: My favorite animal is a dog.

Q: Why?

A: Because dogs are loyal and friendly.

Q: What are two reasons that a dog might be in a bad mood?

A: Two reasons that a dog might be in a bad mood are if it is hungry or if it is hot.

Q: How many eyes does a giraffe have?

A: A giraffe has two eyes.

Q: How many legs does a frog have?

A: A frog has four legs.

Q: Are there any animals with three legs?

A: No, there are no animals with three legs.

Q: Why don't animals have three legs?

A: Animals don't have three legs because they would fall over.

Why learn about Artificial Intelligence (AI)?

- State-of-the-art AI and machine learning is pretty impressive
- Example: Open AI GPT-3: Generating JSX code

Describe a layout.

Just describe any layout you want, and it'll try to render below!

a button for every color of the rainbow I

Generate

```
<div style={{backgroundColor: 'red', padding: 20}}>Red</div><div style={{backgroundColor: 'orange', padding: 20}}>Orange</div><div style={{backgroundColor: 'yellow', padding: 20}}>Yellow</div><div style={{backgroundColor: 'green', padding: 20}}>Green</div><div style={{backgroundColor: 'blue', padding: 20}}>Blue</div><div style={{backgroundColor: 'indigo', padding: 20}}>Indigo</div><div style={{backgroundColor: 'violet', padding: 20}}>Violet</div>
```



Why learn about Artificial Intelligence (AI)?

- State-of-the-art AI and machine learning is pretty impressive
- Example: Generative Adversarial Networks for face generation: [arXiv:1802.07228](https://arxiv.org/abs/1802.07228)



2014



2015



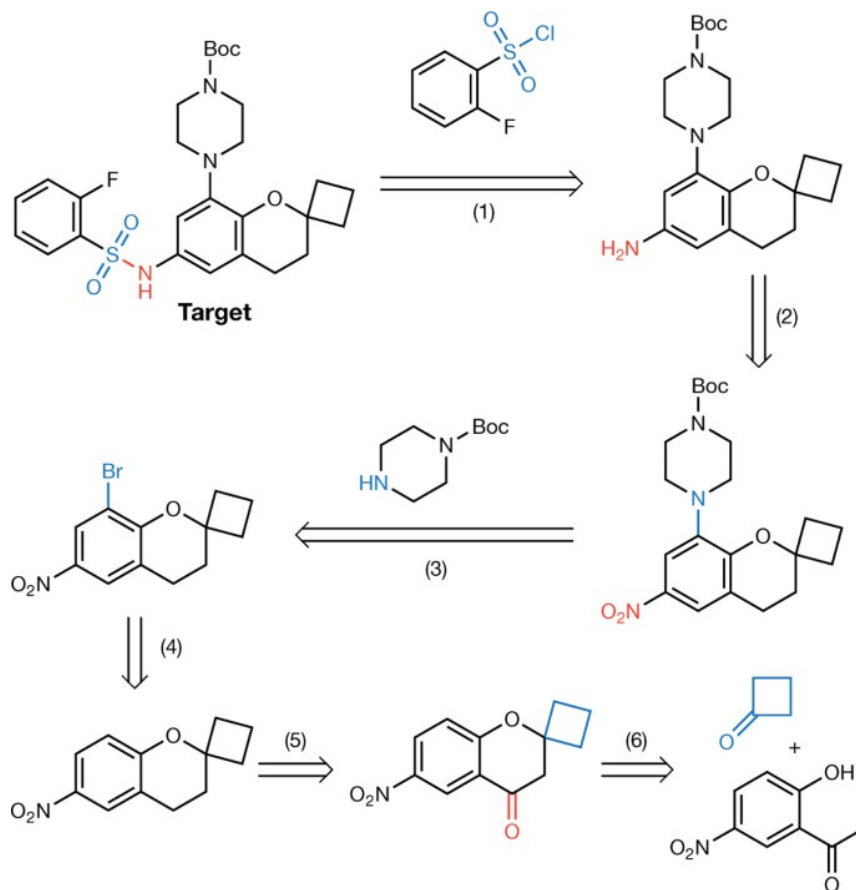
2016



2017

Why learn about Artificial Intelligence (AI)?

- Science!
- Example: Planning chemical syntheses with deep neural networks and symbolic AI



Why learn about Artificial Intelligence (AI)?

- Amazing progress but many difficult open problems
- Debate about the path to artificial general intelligence
 - Machine that is capable of any human task
- Some current approaches have major blind spots with regards to bias, fairness, and ethics

Why learn about Artificial Intelligence (AI)?

- It's not magic, you can learn these techniques
 - Algorithms
 - Mathematics
 - Logic
 - Statistics
 - Optimization

Teaching team: instructors

- See [course website](#)
- Section 1:
 - Prof. Yingyu Liang
- Section 2:
 - Prof. Anthony Gitter
 - Prof. Daifeng Wang
 - Prof. Yin Li

Teaching team: TAs and graders

- See [course website](#)
- Section 1:
 - Apurbaa Bhattacharjee Lichengxi Huang
 - Jeremy McMahan Lisheng Ren
 - Yufei Wang
- Section 2:
 - Hemant Chinchore Yien Xu
 - Yin Liu Yiwu Zhong
 - Aashish Richhariya Abhash Kumar Singh

Teaching team: peer mentors

- See [course website](#)
- Section 1:
 - Apeksha Maithal Atharva Kulkarni
 - Grishma Gupta Kai Wang
 - Kailai Tang
- Section 2:
 - Reid Chen Yash Himmatramka
 - Yijun Cheng Yuedong Cui
 - Zitong Zhan

Office hours

- Will be posted soon to the course website
- Use office hours for the instructors, TAs, and peer mentors for your original section
- Sections mostly merged but remain separate for office hours and grading

Attending lecture synchronously

- If you can join CS 540 T/Th at 11 AM CT:
 - (Optional) download [slides](#)
 - Sign in to Canvas
 - Join BBCollaborate Ultra session
 - Lecture block 1:
 - Watch video
 - Can stay in BBCollaborate Ultra
 - If that fails, stream in Kaltura Gallery
 - If that fails, download from Kaltura Gallery
 - Post questions in Piazza Live Q&A, discuss
 - Short ungraded quizzes to check concepts
 - Lecture block 2 (same as 1)
 - Lecture block 3 (same as 1)

Attending lecture asynchronously

- If you cannot join CS 540 T/Th at 11 AM CT:
 - (Optional) download [slides](#)
 - Sign in to Canvas
 - Watch 3 lecture videos in Kaltura Gallery
 - After class, watch BBCollaborate Ultra recordings to listen to discussion
 - BBCollaborate Ultra → menu → Recordings
 - Check Piazza Q&A

Where to find content

- Canvas – private materials *that should not be shared*
 - Videos
 - Assignments
 - Grades
- Course website – public materials
 - Slides
 - Schedule
 - Policies
- Piazza
 - Discussion, questions
 - Announcements

Practice discussion and quiz

- Ask questions about the course or AI in general
 - Post in Piazza Live Q&A
- Practice a few simple quiz questions