

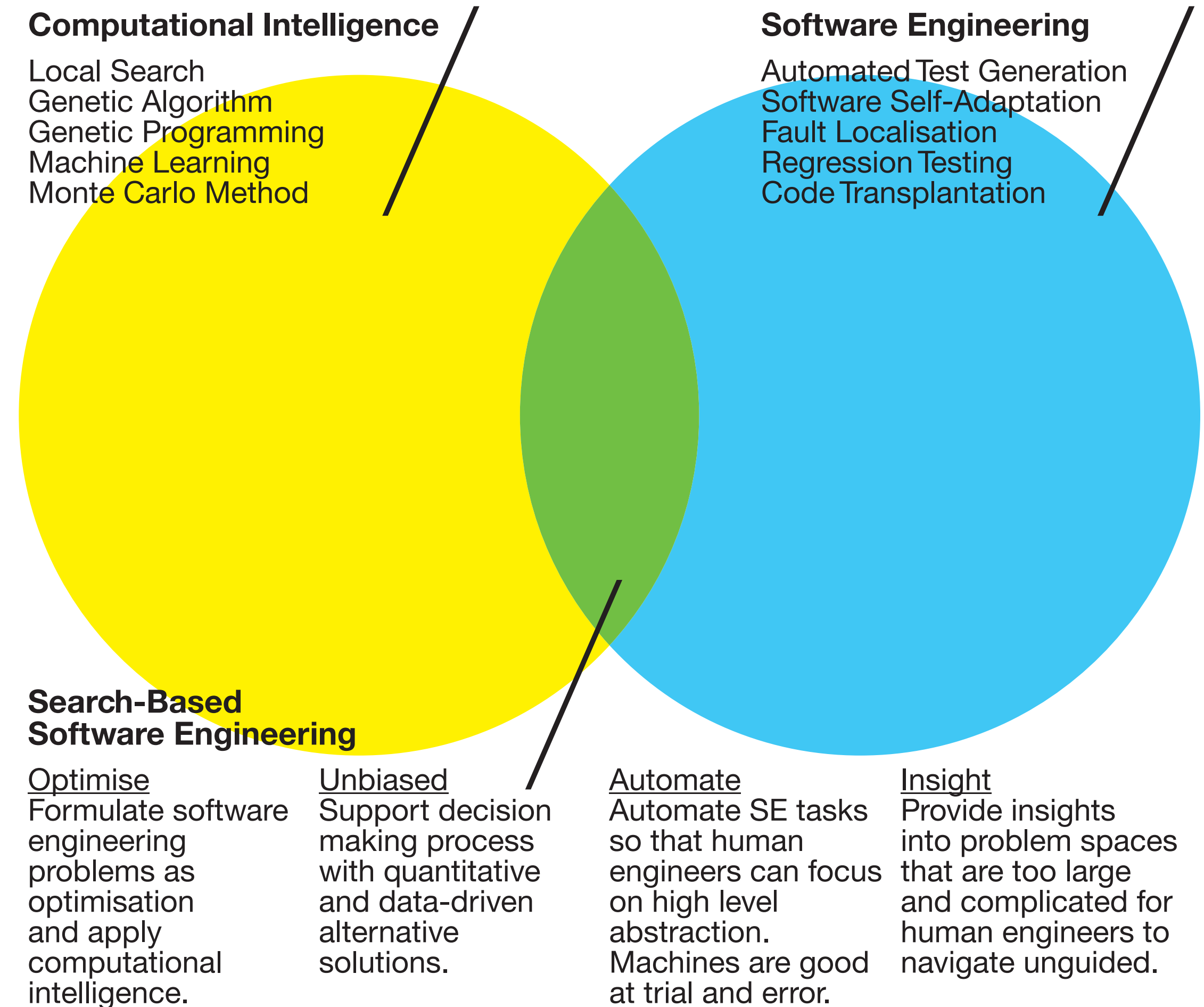
Intro & Housekeeping

CS489 Computer Ethics and Social Issues

Shin Yoo

Me

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 - Assistant Professor at University College London, UK, 2012-2015
 - PhD at King's College London, UK
- COINSE (Computational Intelligence for Software Engineering) Lab (<https://coinse.github.io>)
- Research interest: SE4AI, AI4SE, Automated Debugging, Software Testing...
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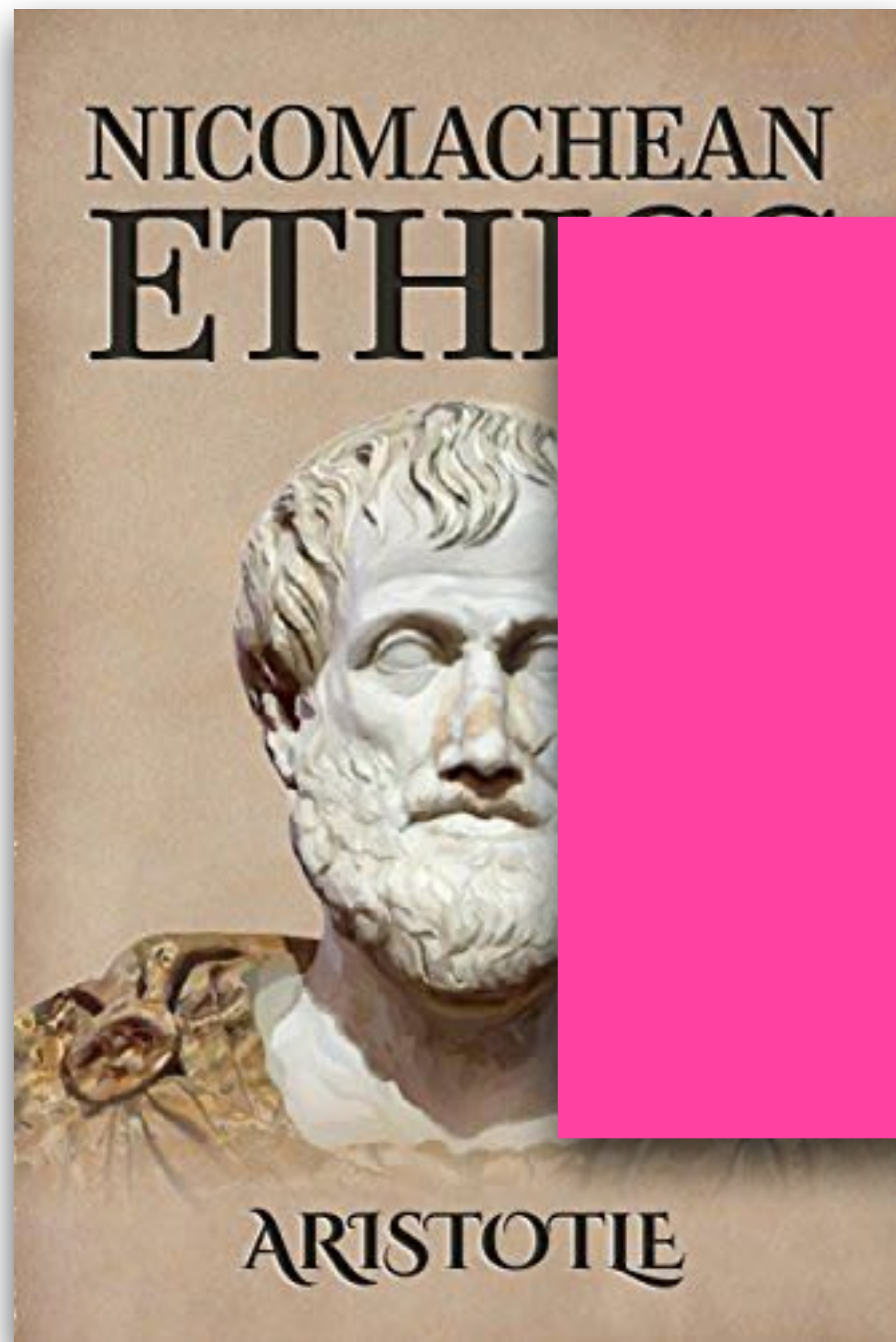


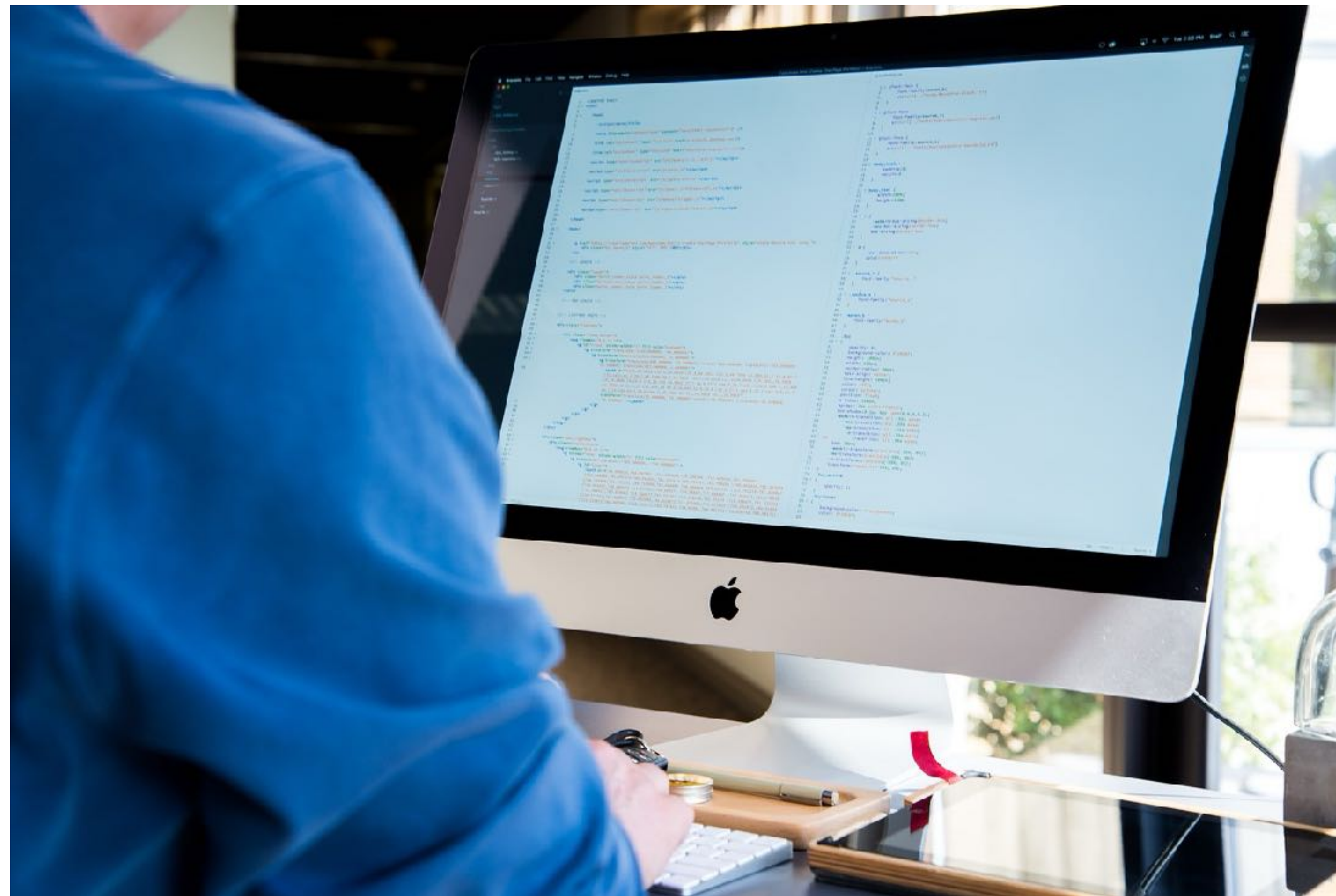
Why you? 🤔

- CS489 had not been open for some time back in 2018
- I had some ideas I wanted to try out for a course like this
 - So, if anything, I felt brave (reckless?), and not particularly virtuous
- I do not mean to claim that I have higher moral standard than any of you 😎
- This is the 5th year: by now I should know how things go, but please understand if it is not super smooth. This course is intentionally open-ended.
 - We teach very little theory here... half the course depends on YOU



Computer Ethics and Social Issues





Ethics: learning how to make good decisions
=
applies to all of us, including computer scientists



We cannot discuss ethics separated from
the world we occupy and the actions we take.

And the world is covered in software and technology.

What we are going to learn

Ethics and Morality

- Both are about doing the right thing.
- **Ethics** refer to rules and systems that tell you what the right thing is and how to do the right thing.
- **Morality** is a set of principles that govern **your** decisions.
- Ethics as knowledge does not automatically result in a good life.
- Morality cannot be taught as skills or knowledge.

...but, “Computer Ethics”!

- Remember, ethics cannot be separated from our actions.
- The primary aim of this course is to “concretise” the discourse about ethics in the context of contemporary, practical, techniques.
 - **Do not just talk the good talk.**
 - Learn the tools and techniques that can help you make and implement ethical decisions.

The “Experience” Side

- Read various texts about ethics in computing
- Discuss and debate ethical views
- Express your thoughts in writing

The “Knowledge” Side

- Obtain the latest facts about ethical implications of computing
- Learn the state-of-the-art techniques that can help you implement better ethics

Technical Topics

- k-anonymity: how to ensure anonymity in databases
- fairness testing: how to check whether an ML model has picked up biases or not
- homomorphic encryption: how to do computation on encrypted data (pending)
- secure multiparty computation: how to do computation without leaking data
- energy testing: how to ensure your software is energy efficient
- clone detection: how to check whether code is original
- statistics: how not to abuse statistics for your results

Use this course as an opportunity to really think hard about ethics: read related books and news articles, express your ideas, and develop projects

How about grading?

Course Grading

- No exam
- Class Participation: 20%
- Assignments: 40%
- Project: 40%

Peer Evaluation

- All courseworks and projects will be (partially) peer evaluated: 50% of grades are from me, the remaining 50% are from your peers.
- This is to encourage for you to read the writings of others and to think about them.

Class Debates

Collecting Topics

- We will collect topics for debates; I will throw in a couple of them to get going.
- Submit your debate topics using the following Google Forms: <https://forms.gle/e1QBvn5oMhEPJwA2A> by 10th September.
- I will turn the topics into polls, and we will go through them together on 12th. Then we will choose our debate topics from these.

Class Debates

Debate Format

- We will have two teams for each debate topic. Teams will make a short presentation for their position.
 - Make sure your presentation is scientifically supported - do not just argue because it is “obviously” true :)
 - Make your presentation interactive whenever possible
- Subsequently, two teams will get a chance to ask questions to the other team.
- Finally, the entire class will discuss. At the end, we will poll the class to see what the overall thoughts are.

Class Debates

- Pre-determined topics
 - Is “de-growth” as an economic goal immoral as Sam Altman says?
 - Is unbreakable encryption necessary to protect the sacred individual privacy?

Communication

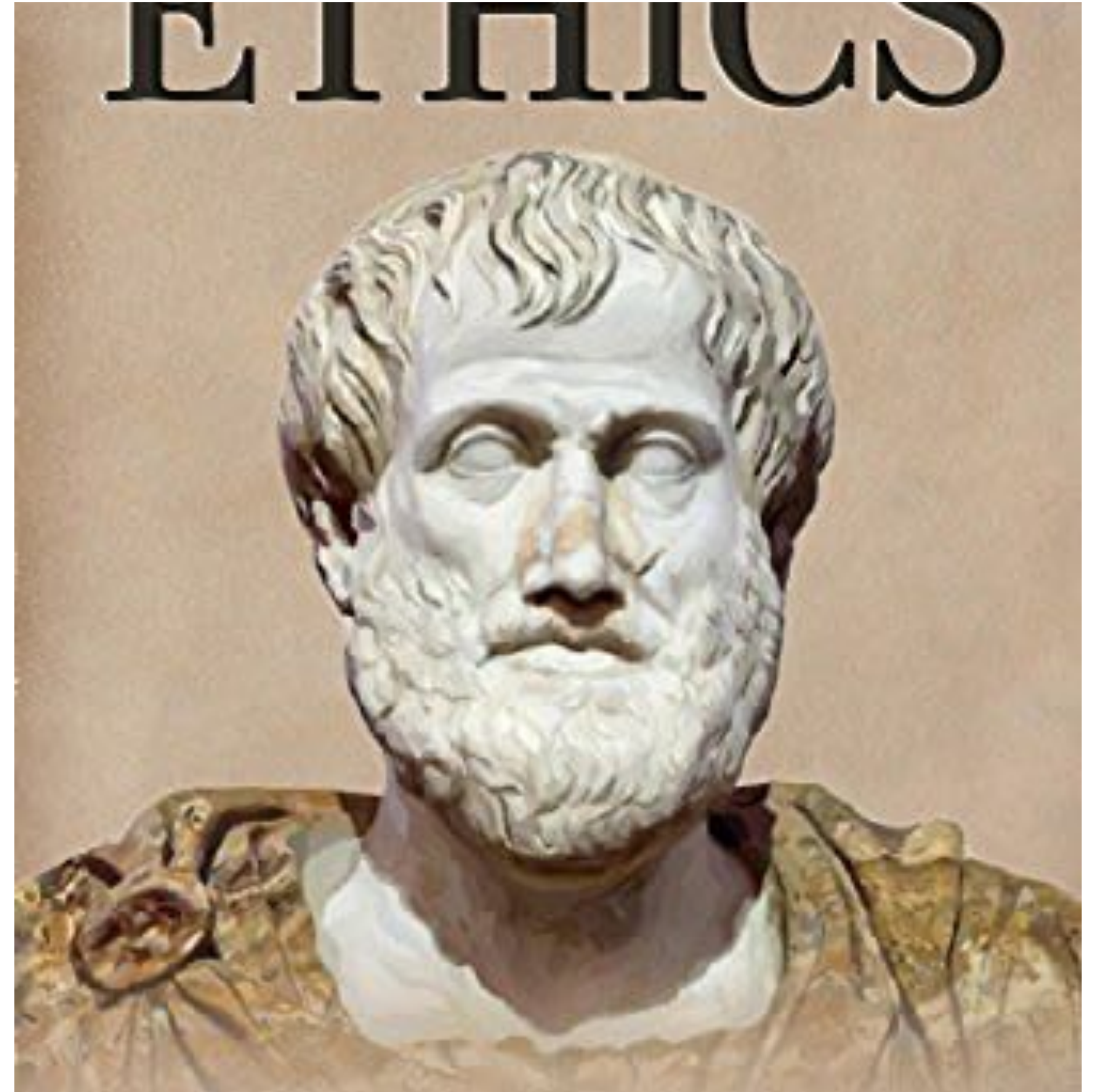
- We will use Slack for all class-related communication: announcements, questions, discussions, provision of additional information and reading materials, etc
- You have to join, no excuse.
- Invitation link will be distributed via email from KLMS.

Assignments

- There will be five essay writing assignments:
 1. Ethics, Computers, and Our lives (due 09/10)
 2. To be announced.
 3. To be announced.
 4. To be announced.
- Everyone should write in English; all of the should be minimum 1,000 words.
- Submit **PDFs** via KLMS.

Ethics, Computers, and Our lives (due 09/10)

- Pick a media coverage (e.g., a newspaper or magazine article) of an event that you think is related to both computer science and ethics. Write a minimum 1,000 words essay to describe what the ethical issue is, how it is related to computer science, and what your opinion is.



Projects

- This is where you shine with your technical skills.
- Projects are completely open-ended: build *something* you think is relevant to ethical issues/what you learnt during this course/what you think is ethically important...
- Consult with me if you are not sure about your ideas.

Projects

- Project is the reason why you need to be programming-savvy for this course
- The deliverable is your team's GitHub repository: I will consider individual commits as contributions
 - Do not do a group commit/push
 - Do not say 'I was in charge of documentation and slides'
 - Make non-code commits too: slides, notes, reports, etc



Project: Teams

The original idea was to do everything individually but...



Project: Teams

- Reasons for doing team based projects:
 - The course had to scale up due to the demands.
 - Basically all your future professional career will be team based, whether you like it or not, and you need to be trained :)
- By default, you should make teams of 3 people: use the #team-building channel on Slack

Course Schedule

<https://coinse.github.io/teaching/2024/cs489>

- I have a prior commitment to a conference (ASE 2024): I am the general chair of ASE 2025, which will be held in Seoul next year, and I am required to attend this year's edition to report the status.
- Most of the schedules are fixed, but they may change as we go along: please understand.

Questions?

