



Sungkyunkwan University (SKKU) International Summer Semester (ISS) 2022

AI for Social Innovation

Prof. Jeong-Woo Koo, Sungkyunkwan University (jkoo@skku.edu)

SHORT COURSE DESCRIPTION

How can AI technologies be used as a force for social good while minimizing the potential for misuse or bias? We will address this question by considering a myriad of ways in which AI technologies lead to both positive and negative social consequences. We first consider a human-centered approach to AI and the rise of the AI for Social Good Movement and then review targeted applications of AI to the domain of social good, followed by the discussion of ethical, technical, rights-related challenges facing the advances in AI. Students will learn about how social sciences can stimulate computer science and vice-versa and grab the opportunity to imagine creatively how the advances in AI can usher in the principles of inclusiveness, fairness, and accountability.

READING MATERIALS

PDF files of all readings will be available 1 to 2 weeks prior to the start of the ISS

COURSE REQUIREMENTS AND GRADING

All ISS classes are pass/fail based on the student academic achievement evaluated by grades on a scale of 100 points (grade of 60 or above is Pass). SKKU regulations require students to attend at least 80% of all classes.

Attendance: 10%

Class participation: 20%

Team presentation (one time): 20%

Data Scrapping: 10%

LDA outputs: 10%

Final research note: 30%

Other Logistics

- The course will be proceeded both with online lecture and offline meeting. Pre-recorded lecture (50-60 minutes) will be posted on I-campus in advance before having an offline class (1 hour and 15 minutes).
- comfort with the basic level of Python or some other programing experience is encouraged, but not required.
- Students are expected to work with other classmates for preparing one time presentation and turning it to a team project output.
- Students will have the opportunity to use the Google Colab to collect text data from New York Times API and/or other channels.

COURSE SCHEDULE

– WEEK I: Human Centered Approach to AI –

Thursday (27 June):

Course Introduction and Logistics

Friday (28 June)

Human Centered Approach to AI: Concepts, and Initiatives

Monday (29 June):

Social Innovation, where does it come from?

Tuesday (30 June):

Human improvement and post-humanism

– WEEK II: Human and Social Augmentation –

Monday (4 July):

AI in Health Care: Examples of human augmentation

Tuesday (5 June):

AI and Social bots

Wednesday (6 July):

AI and Social bots: From empathy bots to open domain chat bots

Thursday (7 July):

How to respond to online hate speech?

– WEEK III: Machine Learning in Social Sciences –

Monday (11 July):

Use of Machine Learning in Social Science Research: Beginning with Data Scrapping

Tuesday (12 July):

Why does private matter in the digital age?

Wednesday (13 July):

Introduction to text mining and/or topic models

Thursday (14 July):

Topic models using word embedding

Friday (15 July):

Implementing and visualizing topic models using python

– WEEK IV: Ethical and Human Rights Issues–

Monday (18 July)

Moral Machine Experiments: The ethics of Self-Driving Cars

Tuesday (19 July)

Submission of final research note: no class