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| Logo_Kr.jpg | Sungkyunkwan University (SKKU) International Summer Semester (ISS) 2023  **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. This course will also provide an opportunity for students to get familiar with an automated text analysis to which AI techniques are increasingly applied. In a nutshell, 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 on I-Campus

**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%

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 30 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 –**

Monday (26 June):

Course Introduction and Logistics

Tuesday (27 June)

Human Centered Approach to AI: Concepts, and Initiatives

Wednesday (28 June):

Social Innovation, where does it come from?

Thursday (29 June):

Converging Technologies: Human improvement and post-humanism

**– WEEK II: Human and Social Augmentation –**

Monday (3 July):

AI in Health Care: Examples of human augmentation

Tuesday (4 June):

NYT API crawling

Wednesday (5 July):

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

Thursday (6 July):

TA Session

**– WEEK III: Machine Learning in Social Sciences –**

Monday (10 July):

Online hate speech

Tuesday (11 July):

Privacy protection and social mobilization

Wednesday (12 July):

Introduction to text mining and/or topic models (LDA in Python)

Thursday (13 July):

Topic models in Theory

**– WEEK Ⅳ: Ethical and Human Rights Issues–**

Monday (17 July):

Topic models with word embedding (ETM)

Tuesday (18 July)

Moral Machine Experiments: The ethics of self-driving Cars

Wednesday (19 July)

Submission of final research note: no class