CS4000, Harnessing Artificial Intelligence (0-2)

Catalog Description

An introduction for non-CS-majors to the structure of the AI field and the kinds of hardware-software systems available to perform classification, data mining, decision support, discovery, speech understanding, vision, inference, and deduction. Students will be exposed to the major areas of concern, research, and application of AI, including the history and foundations, the kinds of learning machines, the critical domains of AI application, and the directions in which the field is advancing. Prerequisites: None.

SCHEDULE FOR FALL 2019

What is AI?

(Sep 30) Origins and history (P. Denning) (Oct 2) Hierarchy of AI machines (P. Denning)

Classifying Machines by Kinds of Learning

(Oct 7) Automation (J. Kroll)

(Oct 9) Rule Based AI (V. Monaco)

(Oct 15) (SHIFT DAY) Supervised Learning AI (M. Orescanin) (Oct 16) Unsupervised Learning AI (C. Darken)

(Oct 21) Human-Machine Teaming AI (R. Darken) (Oct 23) Aspirational AI (N. Rowe)

Critical Domains

(Oct 28) Data Science and AI (R. Dell) (Oct 30) Robotics and AI (B. Bingham)

(Nov 4) Computer Vision and AI (M. Kolsch) (Nov 6) Cyber Security and AI (B. Hale)

(Nov 13) Natural Language and AI (N. Rowe) (Nov 18) Management and AI (U. Apte) (Nov 20) Ethics and AI (B. J. Strawser)

Moving Forward

(Nov 25) AI and strategy (W. Huntley) (Nov 27) Risks of AI systems (N. Rowe) (Dec 2) AI in the DOD (B. Michael)

(Dec 4) AI and the New Face of Battle (J. Arquilla)

Conclusion

(Dec 9) Conclusions (P. Denning)