Towards a Paradigm for Visual Modeling

Visualization has recently gained a foothold in the field of artificial intelligence research. Typically, this work has focused on visualizing modules or specific dynamics of machine learning models, doing so for the purposes of model explainability or for visual debugging. Drawing from ongoing projects involving pandemic analysis and famine shocks, this seminar describes research efforts on graphical modeling where visualization functions as the medium for modeling itself. Herein, using visual abstractions provided in a human-machine interface, a modeler is able to interrogate contextual knowledge, explore model structures, surface numerical data, and engage in parameterization and execution -- thus moving entirely visually through model assembly workflows in lightweight, interactive and iterative ways. Future research here looks to extend these techniques to the space of visual meta-modelling, so modelers can simultaneously work across graphical representations of multiple models, and engage analytic capabilities such as model comparison and coupling. Finally, the seminar will explore limitations, lessons learnt and core principles extracted from these efforts in an attempt to sketch a paradigm for visual modeling.

Fahd Husain
Director, AI Research
Uncharted Software

Date: Friday, September 25
Time: 1:00 – 2:00 p.m. US Central Time
Zoom Meeting ID: 998 4499 3279
Passcode: 724615
Faculty host: Seth Murray, SCSC

Biography

Fahd Husain is the director of augmented intelligence research at Uncharted Software, where he directs overall AI strategy and machine intelligence threads across various efforts. Fahd joined Uncharted in 2016 as a machine learning researcher, with a background in pure mathematics, philosophy and quantitative political science. He is trained in computational statistics, machine learning, theoretical analysis and research design, with extensive industry and academic experience in consulting, teaching and R&D in the field of data-driven science. Currently, he functions as a principal investigator for Uncharted's efforts on two DARPA programs: Automated Scientific Knowledge Extraction (ASKE), which looks to automate some of the manual processes of scientific knowledge discovery, curation and application; and World Modelers (WM), which aims to develop technologies to integrate qualitative analyses and quantitative models to understand famine events and other real-world complex systems.

You can also click this link to join the seminar https://tamu.zoom.us/j/99844993279?pwd=TkJodWFVRURyMmkwakI4SWZGeVJTQT09

For more information about TAMIDS seminar series, please contact Ms. Jennifer South at jsouth@tamu.edu