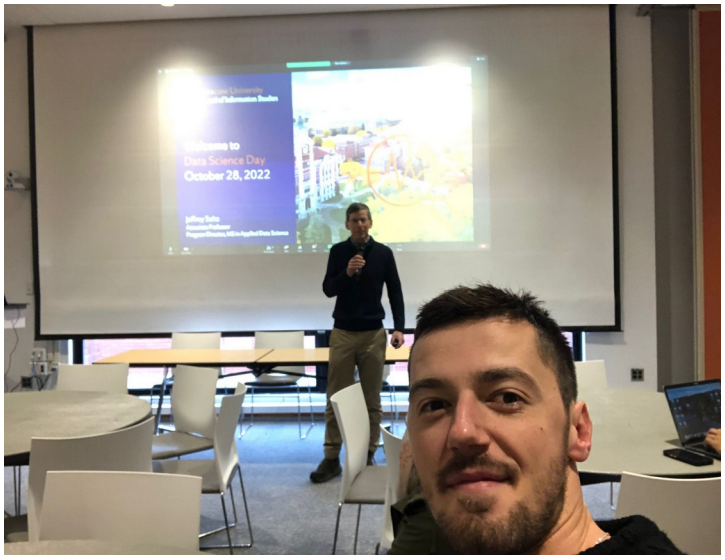
Data Science Day

Data Science day took place on October 28th. It was divided into 3 sessions. I could participate in 2 out of 3 sessions.

Session 1 Topics:
- What is Data Science and How it Relates to Machine Learning and AI
- How Data Science is Used and the Skills Needed to “Do” Data Science
- Smart Cities and Data Science

Session 2 Topics
- Exploring Responsible AI
- Our Minds and the Machines: Exploring Mental Shortcuts in Human-AI Interactions



Identify 3 insights from the session, with a paragraph explaining each insight (one paragraph per insight)

1- Morning 9 to 10:30 in Schine center 304AB. The section started with iSchool Program Director for MS in Applied Data Science, Associate Professor Jeffrey Saltz. He spoke for 30 minutes what data science is and how it is related to machine learning and artificial intelligence. He gave diagrams and examples showing relation of these areas with one another.

Data is the link between data science, artificial intelligence, and machine learning. Big data management, processing, and interpretation are the main areas of concentration for data science. Algorithms are used by machine learning to examine data, learn from it, and predict patterns. AI needs a steady stream of data to learn from and enhance decisions.

Data science uses meaning extracted from structured and unstructured data to guide planning and decision-making.
Using applications for descriptive, predictive, and prescriptive analytics in business and problem-solving.
Examples include financial analysis, process improvement, and consumer trends.

AI enables machines to carry out sophisticated intellectual tasks, such as decision-making, problem-solving, sensing, and interpreting human communication, in the same way that humans do.
Carry out tasks much way humans do by learning, thinking, and making adjustments.
Examples include chatbots, voice assistants, robots, and online gaming.

Systems can utilize machine learning to synthesize data, learn from it, and apply the insights to get better over time.
To learn from the data and generate predictions, extract information from structured and semi-structured data.
Examples include search algorithms, health monitoring, and automated suggestions.

2- 9:30 – 10am iSchool Associate Professor Raj Dewan spoke about data science usage and the skills needed to “Do” data science.

He spoke about the importance of visualizations in data science. A potent method for displaying your data graphically is data science visualization. It makes it simpler for data scientists and analysts to evaluate data and produce insightful findings. There are many applications available that can assist you in visualizing your data, including Tableau, which the professor also mentioned. Professor drew the attention that it is easier to draw a visualization rather than writing a 2 page rapport.

3- 10:00 – 10:30am iSchool Associate Professor Sevgi Erdogan spoke about Smart Cities and Data Science. High granular data at unheard-of spatiotemporal sizes are made possible by the accessibility of cheap, ubiquitous sensors in metropolitan infrastructure. By fusing ICT, the Internet of Things (IoT), and citizen participation to efficiently manage and utilize city infrastructure and services, "Smart Cities" aim to use this data to offer a healthy, happy, and sustainable urban ecosystem. "Data Science" is an interdisciplinary discipline that combines scientific methods, procedures, algorithms, and systems to extract knowledge from data in many different formats. It offers quick and effective analysis of the present dynamics of cities and solutions to improve various services. The scientific methods that will be covered in this course will enable the analysis, inference, and prediction of large-scale data (such as data from mobile phones, social media, GPS-equipped vehicles, etc.), the existence of individual social network data, etc.) in municipal networks. We'll go through the fundamentals of the data science techniques used to evaluate these datasets. The methodologies and how to use them to solve challenges in smart cities will be the main topics of the course. Python will be used to show how each method is applied to datasets that the instructor has access to. Ride sharing services, intelligent and energy-efficient structures, evacuation modeling, decision-making during extreme events, and urban resilience are a few examples of the issues that will be covered.

A paragraph on how your insights relates / augments / contradicts what you have learnt in Intro to DS

Since we learned about the significance of data in the first lecture, a data scientist should possess a variety of skills, including knowledge of the application domain, the ability to see the big picture of a complex system, the ability to communicate with data users, the ability to represent data, and ethical reasoning. In 2 first sessions of Data Science Day, these points were reemphasized. The subjects of this conference/workshop were underpinned by what we have learned thus far. Even though I had read before about Smart Cities and AI, what was covered from 10am to 12pm was mostly new for me. Exploring Responsible AI from iSchool Assistant Professor Jasmina Tacheva and Our Minds and the

Machines: Exploring Mental Shortcuts in Human-AI interactions from iSchool Associate Professor Jaime Banks were new information that I found very interesting and that I am glad of participating.

Something you liked or didn't like about data science day

I genuinely enjoyed every session in which I took part. They were all perceptive and made us students think about what we know and, more significantly, what we don't know. Finding our area of expertise, whether it be in visualization, smart cities, or another, was also made easier. Because the presenters challenged our preconceived notions, the second sessions were very engaging. The two presentations gave us this fresh perspective since they were new topics for us. It can be challenging at times to put the programming language and the statistical formula aside and concentrate on how non-technical consumers will interpret the material.
I am looking forward for events like this one.

Suggested improvement for next year's data science day

One suggestion I would mention, is to include case studies, specific experiments, or exercises, on how to put in experience everything spoken from the presenters.