Graph Introduction

Saptarshi Pyne

Assistant Professor
Department of Computer Science and Engineering
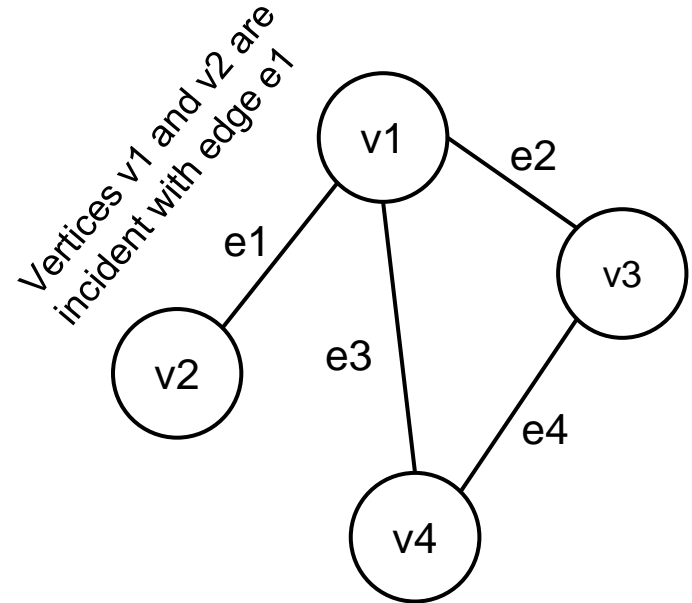Indian Institute of Technology Jodhpur, Rajasthan, India 342030

What we discussed in the last class

- What is a social network?
- What are the different types of social networks?
- Why do we analyse social networks?

Incidence matrix of an undirected graph

	e1	e2	e3	e4
v1	1	1	1	0
v2	1	0	0	0
v3	0	1	0	1
v4	0	0	1	1

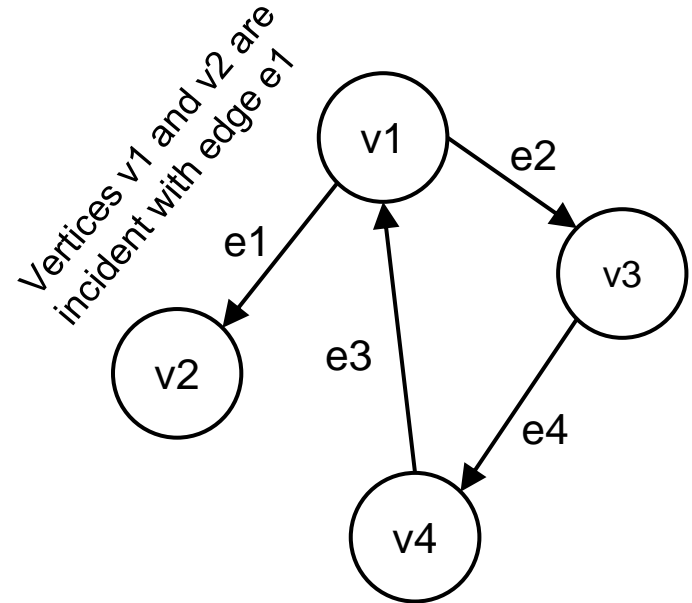Vertices v1 and v2 are incident with edge e1

Replace the 1's with edge weights for weighted graphs

Incidence matrix represents vertex-edge incidence relationships.
Adjacency matrix represents vertex-vertex adjacency relationships.

Incidence matrix of a directed graph

	e1	e2	e3	e4
v1	-1	-1	1	0
v2	1	0	0	0
v3	0	1	0	-1
v4	0	0	-1	1

Vertices v1 and v2 are incident with edge e1

Replace the 1's with edge weights for weighted graphs

Introduction to python and networkx

https://nptel.ac.in/courses/106106169

➔ Week 1: Introduction
- ➔ Introduction to Python-1
- ➔ Introduction to Python-1
- ➔ Introduction to Networkx-1
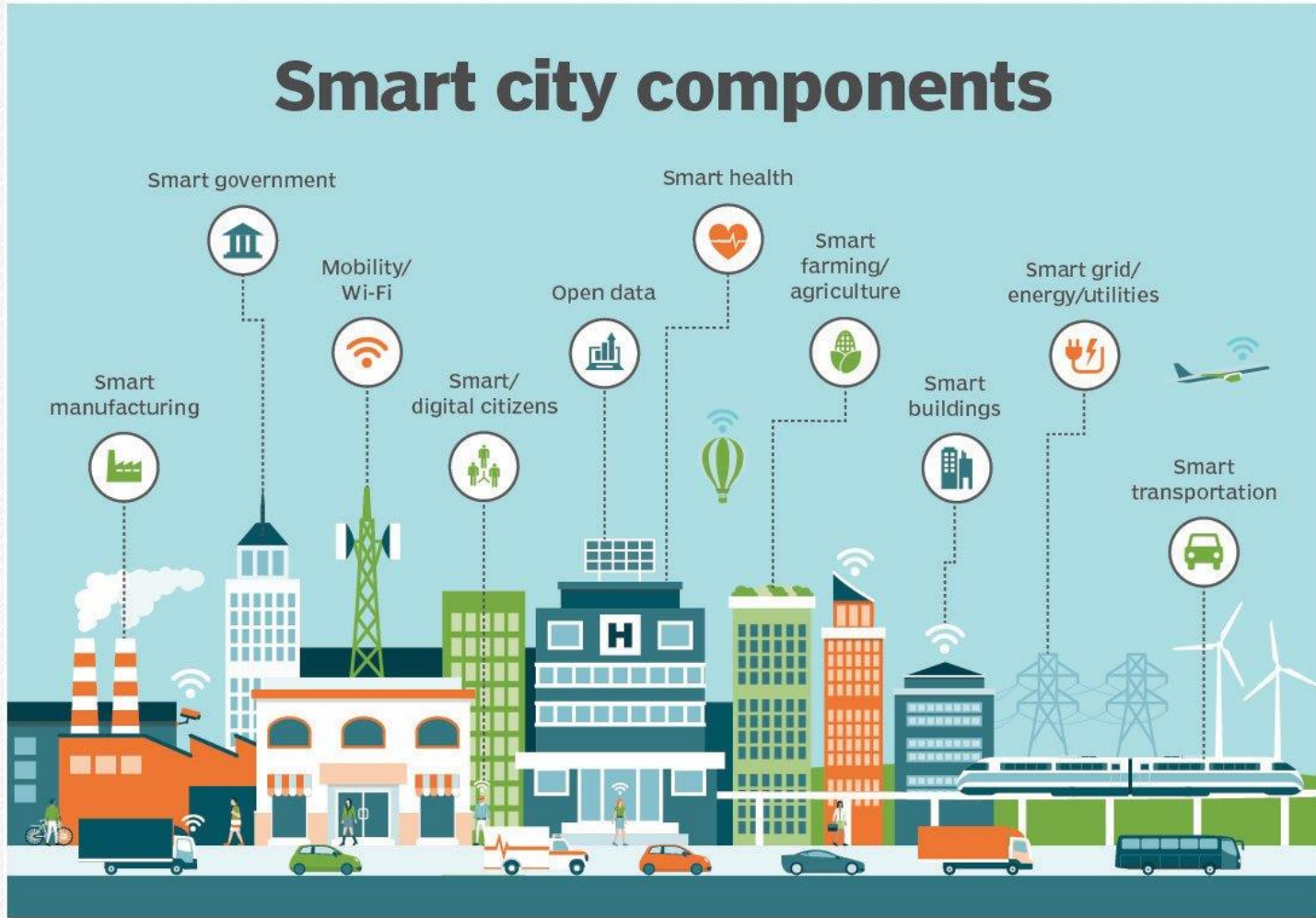- ➔ Introduction to Networkx-2

Smart cities: The ultimate social network?

The future

What about the inter-galactic social networks?

Thank you