Network Science Taster Session

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Why Networks?

NEWS IN BRIEF

Sudden Death Of Aunt Creates Rupture In Family Gossip Pipeline

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https://local.theonion.com/sudden-death-of-aunt-creates-rupture-in-family-gossip-p-1819578447

Sudden Death Of Aunt Creates Rupture In Family Gossip Pipeline

VIRGINIA BEACH, VA—Grieving family members of local aunt Laurie Shelton confirmed Monday that the 48-year-old woman's unexpected death had caused a major breach in their gossip pipeline, suddenly disrupting access to the latest dirt on all their relatives. "Since Aunt Laurie passed, news about how Stephanie's new boyfriend can't hold down a job and updates on Uncle Jeff's gambling habit have slowed to a trickle," said Shelton's niece Arielle, mourning the loss of a woman who for years had reportedly ensured a steady stream of the juiciest tidbits about relatives' layoffs, unplanned pregnancies, personal bankruptcies, and misdemeanor shoplifting charges. "All the best gossip flowed through her, and now she's gone. For all I know, the twins in North Carolina could have been caught smoking pot, Grandma could be back together with Leon, and Uncle Mike could be considering a vasectomy. It's a devastating loss for the whole family." Several in the family expressed hope that, for the time being, a sufficient supply of idle chatter could be rerouted through Cousin Staci to meet their immediate needs.

What happened?

Why did it happen?

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The Shelton family experienced a **network intervention**

(A change in the network)

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The Family Gossip Pipeline is ***<u>vulnerable</u>***

Why Networks?: Networks Matter!

Just as gossip spreads through a network, so may drugs, money, people…

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Understanding the network matters

Example: Criminal Organization in Italy

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Local police had been monitoring criminal behavior in separate areas

Example: Criminal Organization in Italy

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Through wiretaps, surveillance, and other connections….

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The **structure of the network**
influenced what should be done

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lead to widespread
disruption

Example: Criminal Organization in Italy

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Groups were disconnected

BUT, local activity was also impacted

Addiction as a Network Phenomenon

- How did the widespread abuse of prescription drugs in the United States occur?
  - Were more people in pain?
  - Were doctors actively seeking new patients?

Information about opioids diffused through workplaces, friendships, but also through social media communities

Individuals exposed to this information sought out prescriptions and diffused that information to others

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Widespread knowledge
about the access to opioids
spread through networks

And relationships reinforced this behavior

Widespread knowledge about the access to opioids spread through networks

Example: Focused Deterrence

Focused deterrence is built on the idea that information can be diffused through networks

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Example: Focused Deterrence

Nodes spread information
about a program
throughout the network

Example: Focused Deterrence

The existing network of relationships is used to spread the message

Why Networks Matters

- Criminal justice agencies often face situations that involve networks.
- By leveraging the tools of network analysis, agencies can gain new insights and develop novel approaches and solutions.

Network Science Applications

- **Youth Justice Workers and Probation**: uncovering hidden links
- **Law Enforcement**: Targeting influential individuals
- **Agency Management**: Identify those who may benefit most from intervention
- **Prisons**: Anticipating potential escalation among conflicting groups
- **Crime Prevention**: Enhance intelligence gathering, build trust, cooperation, and support from community

What is my stake?

What is my stake?

Two things…

1: Subject Matter Expertise

ASU Arizona State University

ASU Online

Online Degrees

Online Master of Science in Crime Analysis

Help law enforcement solve crimes and learn to lead a crime analysis unit in the online crime analysis graduate program. You'll gain a strong understanding of the fundamental issues, strengths and limitations associated with crime analysis.

Learn more

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Program Info

Program Title	Online Master of Science in Crime Analysis

Course Info

Course Title	Social Network Analysis
Course Number	**CRJ 507**
Canvas Shell	**https://canvas.asu.edu/courses/170143**
Course Level	**Graduate**
Course Start-End	**January 8 - February 27, 2024**
Class Meeting Times	**Asynchronous**
Class Location	**Online**

Course Instructors

Jacob T.N. Young	Associate Professor	
Office Location:	UCENT 649	

2: A Responsibility of My Position

Introduction to Social Network Analysis - Online Course

A 3-Day Livestream Seminar Taught by
FILIP AGNEESSENS

UCDAVIS

Social Network Analysis

This course is part of Computational Social Science Specialization

Taught in English | 22 languages available | Some content may not be translated

Instructor: Martin Hilbert

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Social Network Analysis X

Related Categories

Image Processing | Business Analytics | Data Security | Computer Vision
Deep Learning | Artificial Intelligence | Pattern Recognition | Neural Networks
Data Architecture | Natural Language Processing

2: A Responsibility of My Position

“ ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it includes and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves.

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2: A Responsibility of My Position

It is my *job* to put my subject matter expertise into practice with community partners

Thank you!