

# 國立臺灣師範大學 100 學年度碩士班招生考試試題

科目：資訊傳播學概論

適用系所：圖書資訊學研究所

注意：1.本試題共3頁，請依序在答案卷上作答，並標明題號，不必抄題。2.答案必須寫在指定作答區內，否則不予計分。

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## 一、名詞解釋 (30%，共 30 分)

(一) 數位匯流 (Digital Convergence) (10 分)

(二) 數位落差 (Digital Divide) (10 分)

(三) 新媒體 (New Media) (10 分)

## 二、申論題 (70%，共 70 分)

(一) 請解釋何謂資訊不對稱(Information Asymmetry)，並舉兩例說明在 Web 2.0 的環境中之資訊不對稱現象。(30 分)

(二) 請閱讀附件一(p. 2-3)之 *Will You Tweet This?*一文，並回答以下問題。(40 分)

1、試說明文中描述 Professor Jure Leskovec 在文中所執行研究之研究目的、研究方法以及研究結果的應用。(20 分)

2、就您個人的觀察，對於資訊在各式媒體中傳播的過程中，會影響資訊耐久性(Information Longevity)的因素還有哪些？(20 分)

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## 附件一

Technology Review, Published by MIT

Friday, January 14, 2011

## **Will You Tweet This?**

New analysis could help predict how stories will be shared.

By Erica Naone

When a piece of news breaks online, it's hard to predict how widely it will be discussed in blog posts or tweets and for how long.

Jure Leskovec, an assistant professor of computer science at Stanford University, is working to find a way to make it easier to predict which pieces of content will resonate for a long time. A lot of factors go into that equation, however—the content of the story itself, the popularity of the site where the story originally appeared, and the nature of the community of readers at which it's aimed.

Two new research papers, written by Leskovec and Stanford PhD candidate Jaewon Yang, reveal patterns in the way news stories are shared online, which offer a way to predict early on how a story's popularity will rise and fall.

Predicting how widely a news story, or any other piece of information, will travel could help websites position their content and advertising more effectively, Leskovec says. It could also help determine influence of a writer or blogger, by showing how his or her content is shared. Combined with other work, it could help provide a better picture of how information travels online generally.

The researchers analyzed 170 million news articles and blog posts over the course of a year, and 580 million Twitter posts over eight months. They measured the attention each piece of content received by tracing how many times it was mentioned in other blog posts, news stories, and tweets. They did this not by looking at links, but by tracking the appearance of distinctive phrases—such as "lipstick on a pig"—in blog posts and articles. They used this data to create a graph that revealed six distinct patterns. Some stories, for example, spiked rapidly and then fell away, making a sharp, pointed shape. Others had more staying power, rising and falling more gently.

"By looking at when particular types of media get involved, you can see different patterns arise," Leskovec says. For example, if a blog breaks a story, the pattern tends to be different than when a story is broken by a traditional news media. The point at which blogs get

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involved in a story, Leskovec says, is a major factor in determining its longevity. For example, even if traditional media focus on a story for a brief time, blog discussion can keep it in the public eye longer.

The early response to a new piece of content allowed the researchers to predict, with 75 percent accuracy, the shape of that item's popularity over a longer period.

Leskovec says that these results are particularly powerful when combined with tools that can predict the volume of attention that a story will get, rather than just the pattern by which it will spread. To predict volume, the researchers look at where an item is published, its subject area, and other factors.

The research could be used to help sites manage their content, Leskovec says. For example, a large news site might use the approach to decide how long to give a story a prominent place on its front page.

Ilya Grigorik, CTO and cofounder of PostRank, a company that performs real-time analysis of topics and trends online, says the researchers' findings agree with the data his company has collected. In particular, he notes that stories are most talked about within the first 24 hours. PostRank has observed that 50 percent or more of the attention a story gets happens within the first hour, and 80 percent or more happens within the first 24—numbers that Grigorik says have been consistent over the past three years.

Grigorik thinks that more fine-tuning would need to be done to make the work useful in practice. In particular, he thinks the shapes the researchers identified need more characterization, so that people can grasp what it means about a story for it to follow a particular shape.

News-aggregation sites might use a tool based on the research to predict how well posts will do, Grigorik says, although it's unclear how much more effective that would be than using editorial judgment.

Jon Kleinberg, a professor of computer science at Cornell University who has worked with Leskovec in the past, says that the research is "a very promising approach for sorting out the different ways in which news draws attention over time." He says he's particularly interested in seeing the rise and fall of news stories classified in terms of time rather than topic and in exploring the complementary roles that blogs and mainstream news sources play in that news cycle.

Leskovec plans to do more research on how information spreads on the Internet. He and his colleagues are also looking into how information changes as it travels, possibly gaining insight into how rumors and inaccuracies are introduced. ( Copyright Technology Review 2011 )