Primum Non Nocere: Healthcare in the Digital Age

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ABSTRACT

Internet search has become the first stop in many users' health journeys. Today, about 1 in 20 Google searches are related to healthcare. These queries span a broad range of information needs as people are looking for possible conditions related to their symptoms and are seeking to understand their diagnoses and prescribed treatments, decipher their test results, find pathways of self-care as well as connect to people with similar experiences.

This talk will cover the approaches that we at Google have used to meet these diverse user needs. We will also discuss how we constructed and curated the Health Knowledge Graph, a large scale resource of highly accurate medical knowledge that powers many of our health applications. In the second part of the talk, we will show how the confluence of advances in technology enables us to revolutionize health data collection and perform it at unprecedented scale and granularity. Combined with contextual signals, anonymous aggregated user activity can be used to quantify public health phenomena and provide concerned authorities with actionable information about seasonal or situational health issues.

We will conclude the talk with an outline of research directions that could enable people and organizations in personal and public health settings obtain actionable information in a timely manner.

The work presented here was the product of collaboration of multiple teams at Google.

CCS Concepts/ACM Classifiers

• General and reference ~ General literature • Information systems~Information systems applications • Information systems~Web searching and information discovery • Information systems~Web mining

Author Keywords

Healthcare; Web Search

BIOGRAPHY

Anjali Joshi is Vice President of Product Management at Google, where she currently leads Google's efforts in health search and is working on defining new initiatives in the health space. Previously she led the product management team for Search and Image Search. With the growth in the number of people using smartphones, the focus of her teams was to build new search experiences optimized for mobile devices across all geographies and languages. Prior to that she led product management teams for Google Maps, Infrastructure, Research, Translate, News, Finance and Google.org. She also led the early Google efforts for Cloud services and Fiber networks.

Before joining Google, Anjali was Executive Vice-President of Engineering at Covad Communications, the first DSL Competitive Carrier in the US. She was also Principal Member of Technical Staff at AT&T Bell Labs where she led projects to build the first large scale high speed data networks in the US.

She received her Master's degree in Management Science and Engineering from Stanford University, a Master's degree in Computer Engineering from the State University of New York, and a Bachelor's degree in Electrical Engineering from IIT, Kanpur.