Ph.D. General Examinations Proposal

Topics in Social Information

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Introduction:

Internet communication technologies, such as email, instant messaging, and weblogs, have reached threshold levels, making computer mediated interactions inextricably entangled with our lives. Instead of physically conversing or telephoning with neighbors, coworkers, friends and family, we are increasingly finding Internet-based protocols as our sole form of communication.

Our personal exchanges and public announcements have become digitally manifested, and as such are persistently archived and potentially available to a global audience. In this environment, computer analysis is beginning to play an intermediary role between unknowing parties, linking people who have no prior contact.

This general proposal has been arranged around the general topics related to social information, and the function technology can play in understanding these data and relating people to each other. The main area, identity addresses the core question of how people cognitively represent one another, and the ways in which our individual differences are portrayed and perceived. The structural theories of social networks provide a contextual backdrop for interpreting how individuals can be tied together into a cohesive society. The technical supporting area of textual information processing is an overview of the different techniques and methods used by computers to extract and organize meaningful representations from written natural language.

Outline of Areas:

Identity
Main Area
Judith Donath, Assistant Professor, MIT Media Laboratory

Social Networks
Contextual Area
Keith N. Hampton, Assistant Professor, MIT Department of Urban Studies and Planning

Textual Information Processing
Technical Area
Walter Bender, Senior Research Scientist, MIT Media Laboratory
Main Area

Identity

Examiner: Judith S. Donath, Assistant Professor, MIT Media Laboratory

Description: In any social exchange we encounter, knowing the identity of other individuals is essential to the interpretation and understanding of the interaction. The main area collects readings from a number of disciplines around the topic of the role identity plays in our lives. The first area, cognitive representations, is a brief introduction to cognitive aspects of classification and category construction necessary to understand the other areas. Perception of self and others concentrates on the process by which we perceive and classify ourselves and others, while the flip side of the coin, how we expose our identity through cultural exchange, is covered in presentation of identity. The final area addresses the affordances and constraints of identities involved in computer mediated interactions.

Requirements: Assessment in this area will be in the form of a publishable-quality paper.

Signature: ___________________________ Date: ___________________________

Reading List:

Theory

Models of Identity

Aggregative Models of Identity


Contextual Area

Social Networks and Information

Examiner: Keith N. Hampton, Assistant Professor, MIT Department of Urban Studies and Planning

Description: Social network analysis is a growing subfield of sociology dedicated to the viewpoint that the structure of social interactions plays a fundamental role in defining society. This contextual area is meant to provide a basis for understanding how localized interactions give rise to large-scale social phenomena, extending the identity of individuals to the identity of a culture or society. The first section, background and theory, is a collection of fundamental and defining papers in the area, while the second section, methodology, focuses more slightly on the sampling and analysis that underpins this theory. The third and fourth areas focus the subject on information and communication: search and diffusion considers empirical studies of networks and information flow, while technology and social networks looks at how communication technologies are changing our social networks, and by extension, our society.

Requirements: This area will be examined by a 24-hour take home examination administered by Professor Hampton.

Signature: ____________________________________________ Date: __________________________

Reading List:

Background and Theory


### Methodology


### Search and Diffusion


### Technology and Social Networks


Technical Area

Textual information processing

Examiner: Walter R. Bender, Senior Scientist, MIT Media Laboratory

Description: This area is intended to represent the wide-ranging approaches to the computer representation of textual information, considering the tasks of representation, retrieval, and navigation. The first reading group is a general overview of the classical methodology and algorithms for indexing information, while the following two focus on the more specific tasks of classification and natural language understanding. The fourth section outlines the relationship between people and information systems, while the final group considers groups of users working in collaboration.

Requirements: This area will be examined by a 24-hour take home examination administered by Mr. Bender.

Signature: ___________________________ Date: ___________________________

Reading List:

Information Retrieval Algorithms


Classification


**Linguistics and Natural Language Processing**


**Information Users**


**Collaboration and Information Design**


