Diffusing Knowledge in Complex Networks
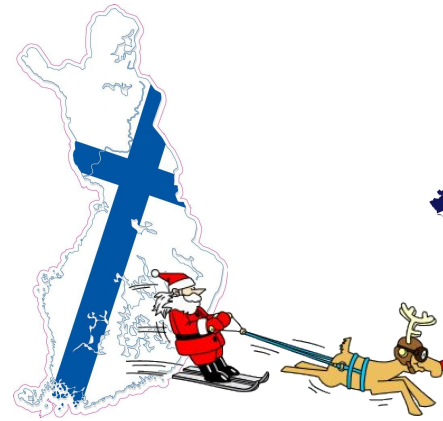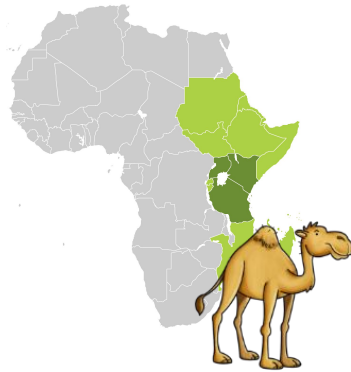
Liang Wang, PhD

Computer Laboratory, N4D Lab

PDRA @ Queens' College

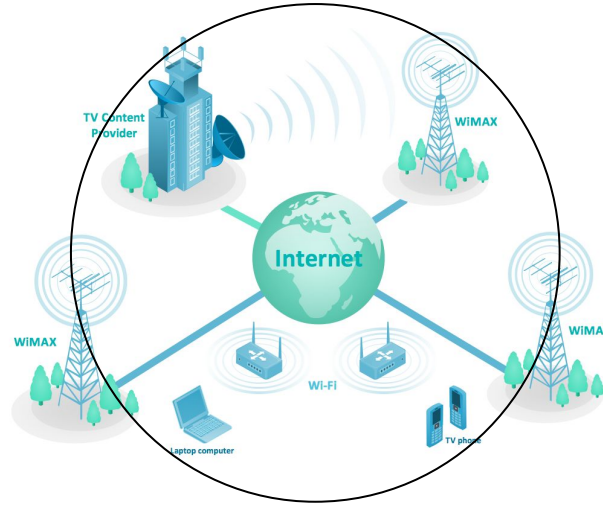liang.wang@cl.cam.ac.uk

About Life

- A postdoc working in the Computer Laboratory (N4D Lab).
- Before that, a journey of 100°C difference ...

About Research - Core Components
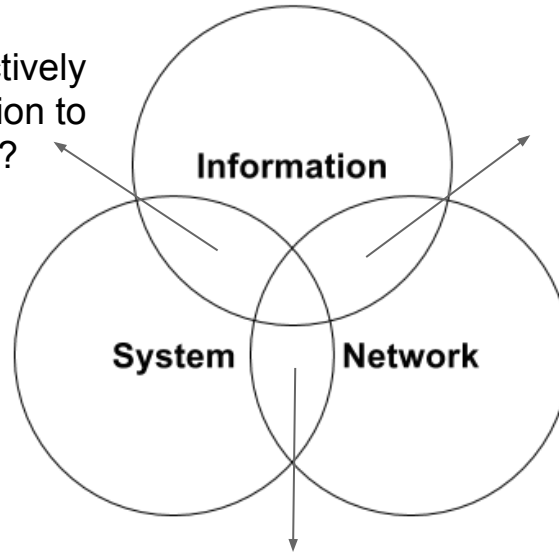

Information

Network

System

About Theory - Previous Work

Information System
How to build a system to effectively manage and analyse information to facilitate knowledge discovery?
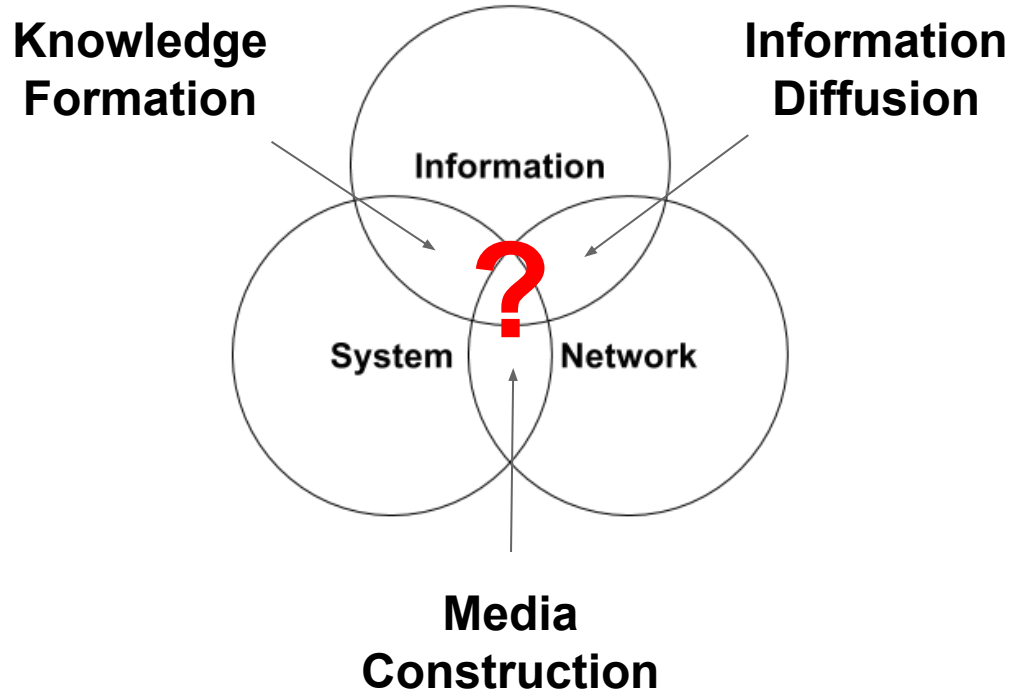
Information-Centric Networking
How to build a communication protocol to efficiently distribute information in a network?

Information

System   Network

Network Operating System
How to build an operating system to adaptively manage networked resources under various dynamics?

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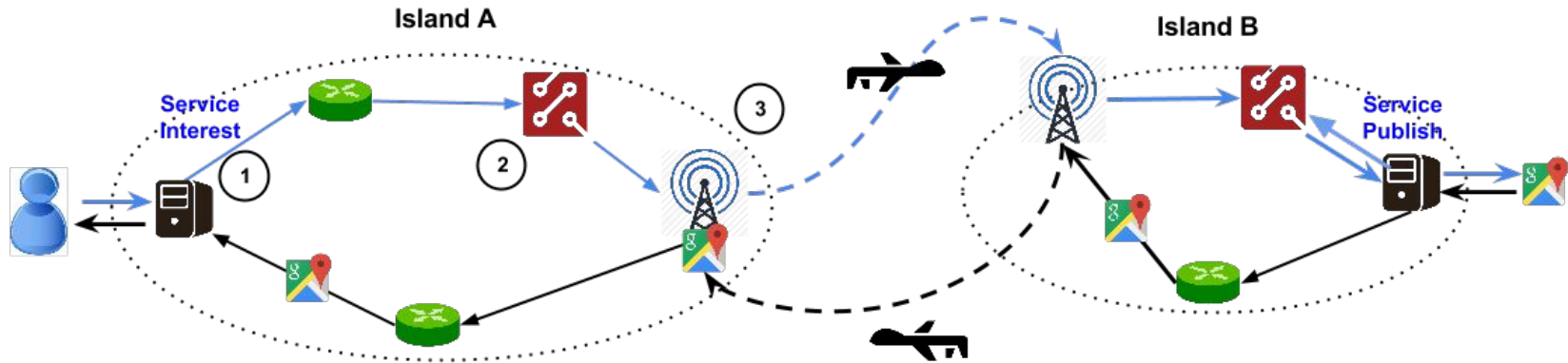# About Theory - Current Challenge

About Vision - A Cool System

?

So, we have a system …

which can make sense of data → information → knowledge,

which can adapt itself under various network dynamics,

which can deliver knowledge safely and efficiently to

wherever and whenever they are needed …

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About Vision - A Utopia

About Practice

- Pro-Diluvian: apply graph theory and statistics in network science to study information dissemination. We got the Best Paper Award in ACM ICN 2015.

- Kvasir: apply machine learning technology to build an intelligent system for knowledge discovery. We entered into semi-final in the Cambridge EPOC Competition.

- SCANDEX: apply information-centric networking technology to dynamic migrate services to edge networks. We received support from Avanti Communications and Guifi.Net.

About Future

- continue to research on intelligent and adaptive systems;

- continue to develop systems for Kvasir and SCANDEX;

- continue to supervise some courses;

- continue to enjoy the life ...

Thank you. Questions?