

About Me

Hanan Lutfiyya

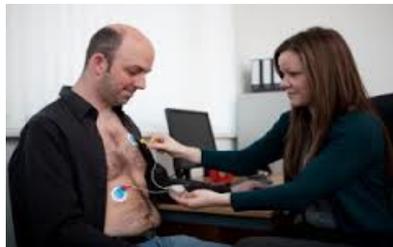
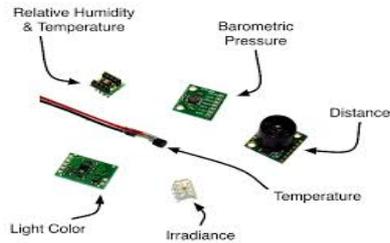
Current Status

- ❑ Chair of Computer Science
- ❑ Email: hutfiyy@uwo.ca
- ❑ Office: MC 355

My Research Interests

- ❑ Distributed Systems/Cloud Computing
- ❑ Internet of Things
- ❑ Software Engineering
- ❑ Adaptive Systems
- ❑ Resource Allocation
- ❑ Mobile Computing
- ❑ Fault Management

Sensors



- A **sensor** is a device that measures a physical property e.g., heat, light, motion
- **Actuators** can control some aspect of physical entities
- Sensors/Actuators can be embedded in our bodies, environment, cities, , etc resulting in an **Internet of Things**

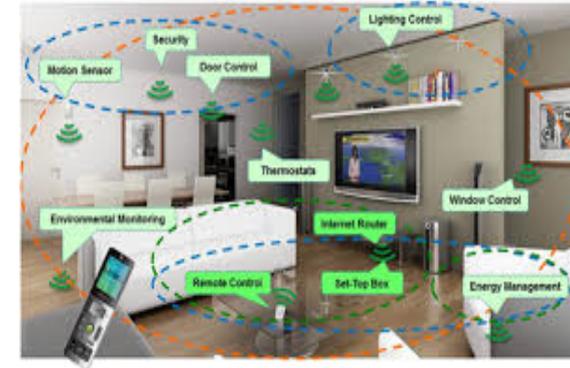
Applications



HealthCare



Manufacturing



Home



Disaster Response



Energy management



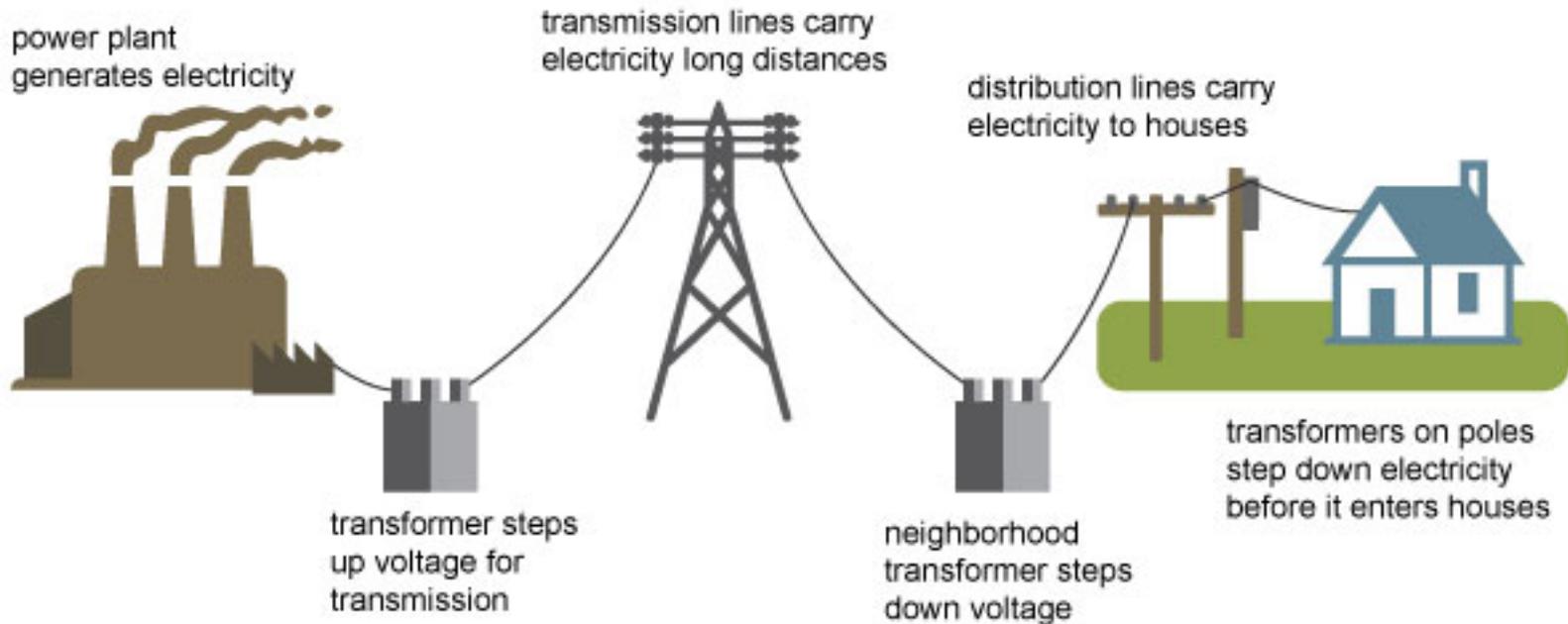
Traffic

Limited

You can have a lot of sensor data but
analysis of the data to enhance
operations is challenging

Project: Smart Grid

Electricity generation, transmission, and distribution



Source: Adapted from National Energy Education Development Project (public domain)

- We are developing techniques to localize the cause of a power outage

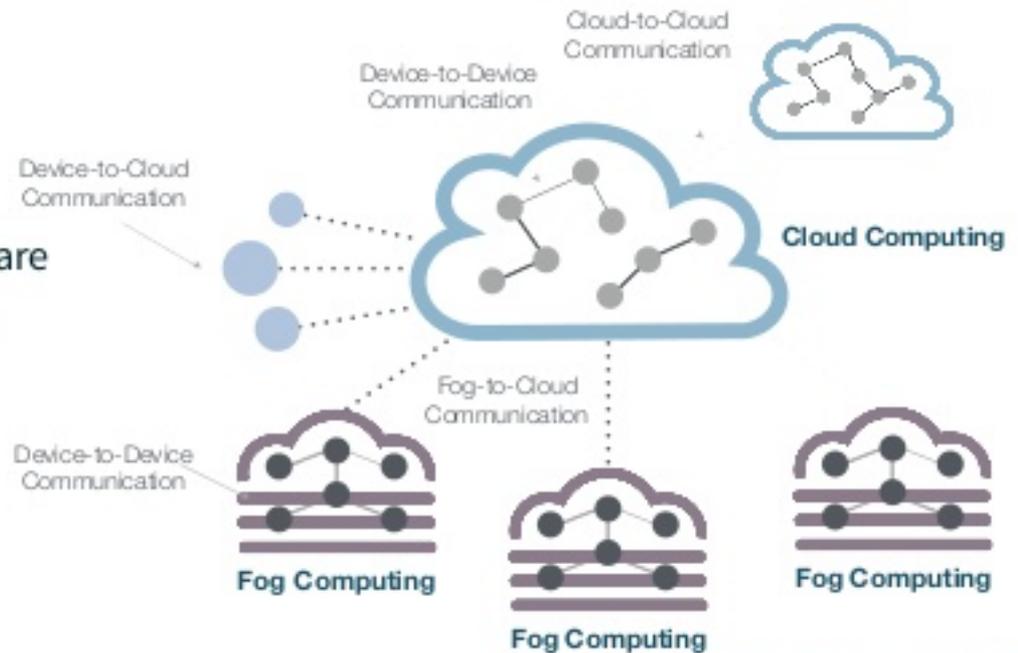
Current Projects

- ❑ Smart Grid with Tillsonburg Hydro
- ❑ Energy Management (a local municipality in Ontario)
- ❑ Smart Cities (in conjunction with a Telco)
- ❑ Resource management in a combined cloud/fog platform

Project

Fog and Cloud Computing

- Fog and Cloud computing are synergistic, not exclusive
- IoT systems require both!



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Managing fog and cloud resources
Programmability

Graduate Course

- ❑ I am teaching "Unstructured Data" with Dan Lizotte
- ❑ This combines information retrieval techniques and analysis environments