

KIVI Chair - Big Data Science Master Class

Introduction KIVI Big Data Science Master Classes November 2016

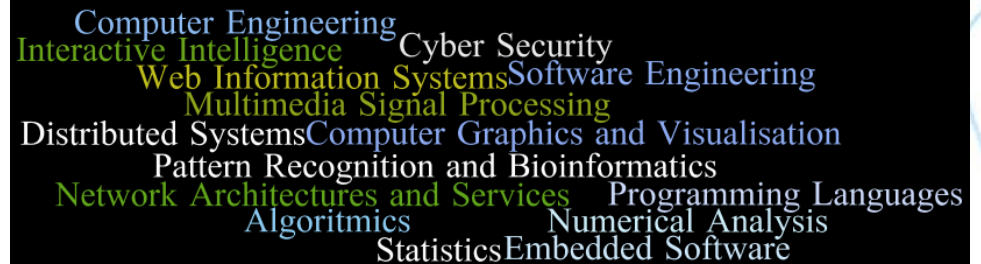
prof.dr.ir. Geert-Jan Houben

10 November 2016

Delft Data Science

Foci

- Full-stack Engineering for Data Science
 - Big Data Hardware
 - Software Engineering
 - Data Management
- Analytics for Data Science
 - Visualization & Interaction
 - Social Data Computing
 - User Aspects of Social Data



Computer Engineering
Interactive Intelligence Cyber Security
Web Information Systems Software Engineering
Multimedia Signal Processing
Distributed Systems Computer Graphics and Visualisation
Pattern Recognition and Bioinformatics
Network Architectures and Services Programming Languages
Algorithms Numerical Analysis
Statistics Embedded Software

Domains

- Health, Online Education, Security, Smart Culture, Smart Cities, Sports, ...

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Computer Graphics and Visualization

prof.dr. Elmar Eisemann

10 November 2016

Computer Graphics and Visualization

Large-scale Visualization

- Domain-specific Representations
 - Geoscience, Medical,...
- Data Management
- Data Reduction



Visualization and Interaction

- Realistic Rendering
- Perceptual Solutions
- Task-Oriented Visualization
- Visual Analytics



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Transiently Powered Computers

dr. Przemysław Pawełczak

10 November 2016

Transiently Powered Computers and the Big D

- Sensors to gather **Big D**(ata) are non-sustainable
 - Batteries are huge polluters
 - Annually 12 billion tons of batteries enter EU alone!
- Solution: **Transiently Powered Computers**
 - Embedded sensors powered by ambient energy only
 - No batteries
 - but therefore “die” very often
 - This masterclass will tell you how they work!



WISP (UW, Seattle USA)

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Cyber Security

Dr. Christian Doerr

10 November 2016

8.8 billion Euro yearly damage in the Netherlands from cyber crime = 1.5% of GNP

- How did we get to this desolate state?

- In the master class we will hear about the effectiveness of today's cyber defense tools against the next generation of cyber threats, and how we need to rethink cyber security.
- With pervasive wireless technologies and IoT on the horizon, take a deep-dive into the security failures and lessons learned from the 802.11 WiFi protocol. What went wrong and how should we design the networks of the future?