



Digital Media Technology

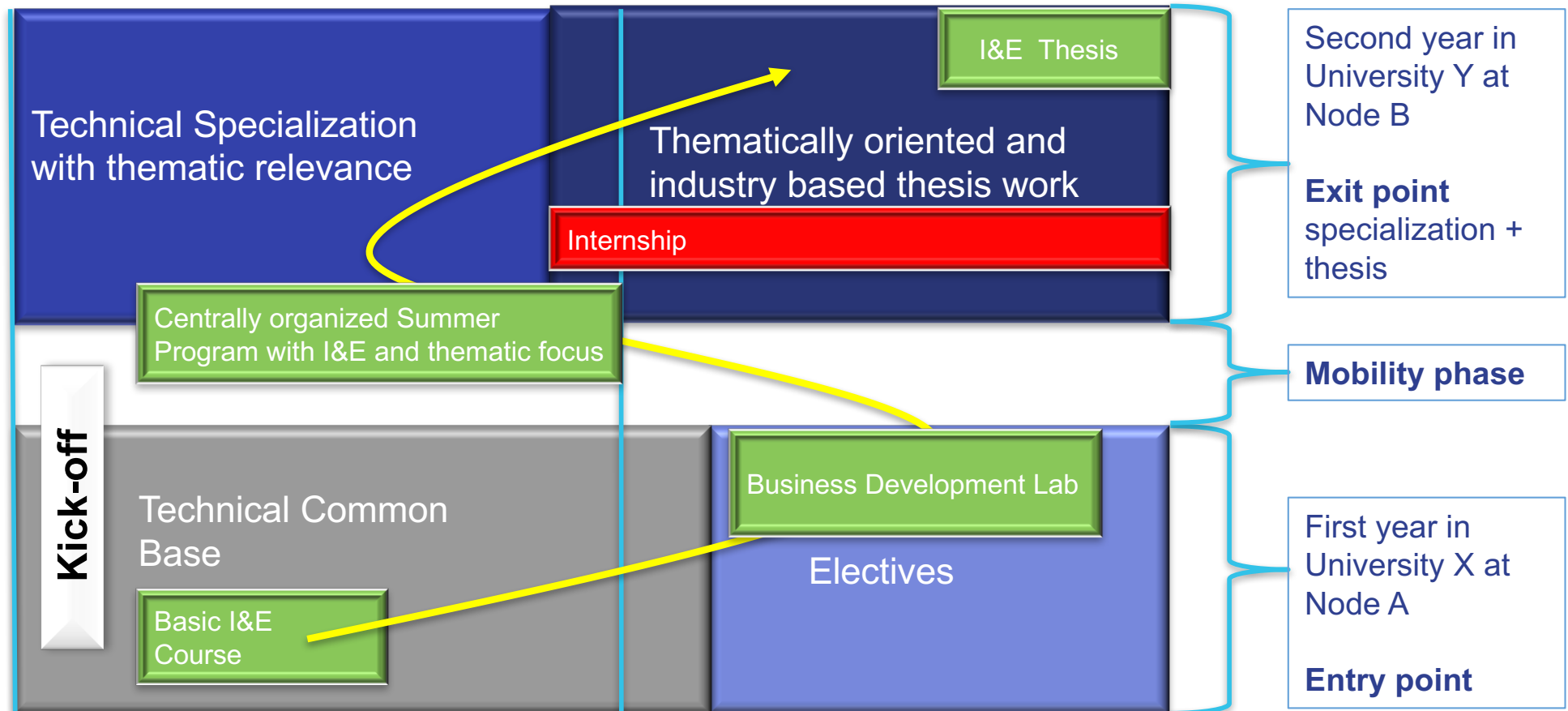
ICT Innovation Master Program Track

Program Track Director: Markus Flierl

Program Track Coordinator: Manja Schubert

The EIT Digital Master School

The whole picture



DMT Specializations

- Hypermedia (Aalto)
- **Media Processing and Communications (KTH)**
- Medical Visualization and Analysis (TU Delft)
- Media Communications Services (BME)
- Semantic Media (UniTN)

Courses at KTH (1st Year)

- **Obligatory Technical Courses**

- DH2320 Introduction to Visualization and Computer Graphics
- EQ1220 Signal Theory (when exiting at Delft, or UniTN)
- EP2120 Internetworking (when exiting at Aalto or BME)
- ID2208 Programming Web-Services (when exiting at Aalto)

- **Additional Obligatory Course (7.5 ECTS)**

- AK2036 Theory and Methodology of Science with Applications (or equivalent)

Courses at KTH (1st Year)

- **Obligatory I&E Courses (19 ECTS)**
 - ME2072 Entrepreneurship for Engineers
 - ME2073 Business Development Lab for Entrepreneurship
 - ME2078 I&E Summer School
- **Choose One Additional Obligatory I&E Course (7.5 ECTS)**
 - ME1033 Open and User Innovation
 - ME2062 Technology-based Entrepreneurship
 - ME2815 Business Model Innovation

Courses at KTH (1st Year)

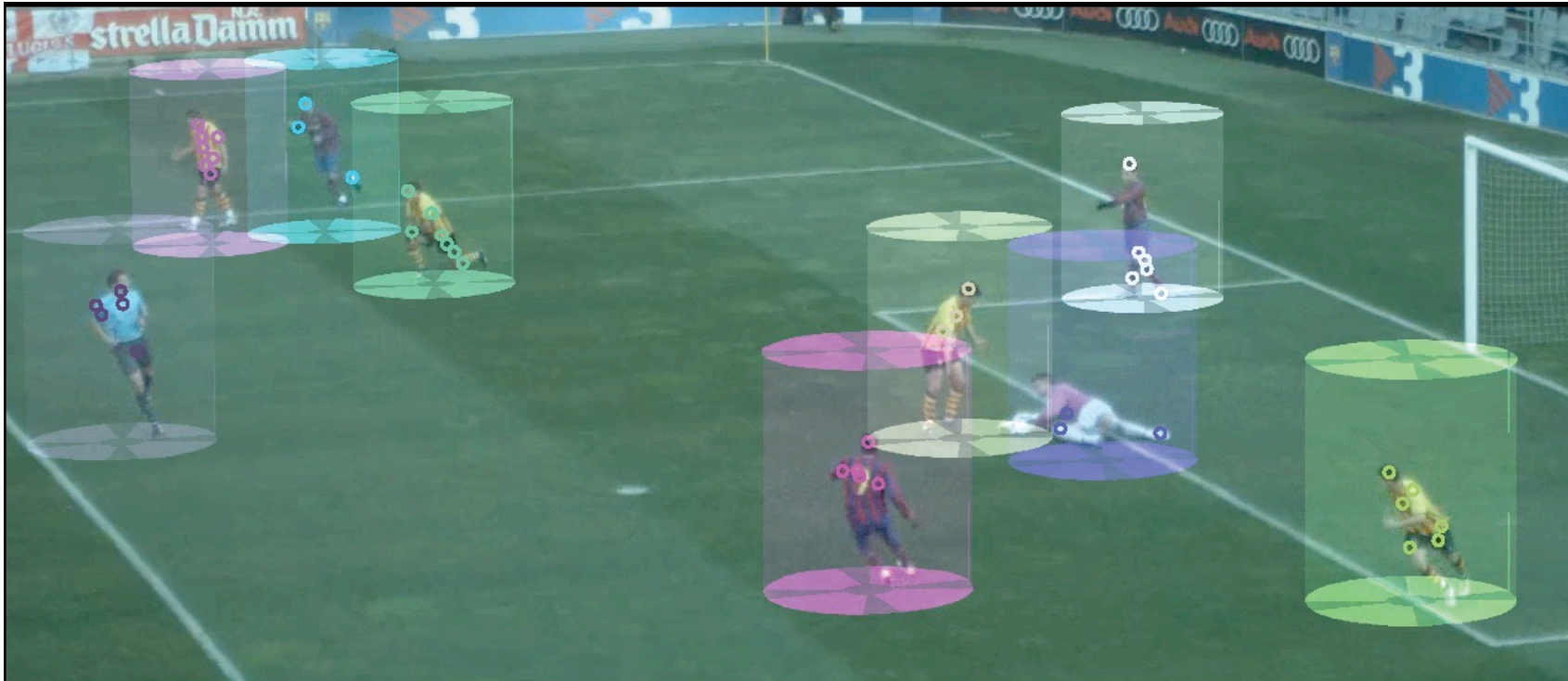
- **Elective Courses** (minimum 6 ECTS)
 - DD2257 Visualization
 - DD2476 Search Engines and Information Retrieval Systems
 - EP2200 Queuing Theory and Teletraffic Systems (choose EP2120)
 - EQ1220 Signal Theory
 - EQ2845 Information Theory and Source Coding (choose EQ1220)
 - EQ2840 Information Theory and Channel Coding (choose EQ1220)
 - DD2423 Image Analysis and Computer Vision (choose EQ1220)
 - EQ2460 Seminars in Wireless Systems
 - DH2323 Computer Graphics and Interaction
 - DD2431 Machine Learning
 - EQ2340 Pattern Recognition

Media Processing and Communications

- **Why Media Processing and Communications?**
- Where visual computing meets telecommunication
- Communication-constrained visual data processing
- High societal impact
- Many business opportunities:
 - Media analysis
 - Mobile media
 - Entertainment
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Free-Viewpoint Experience

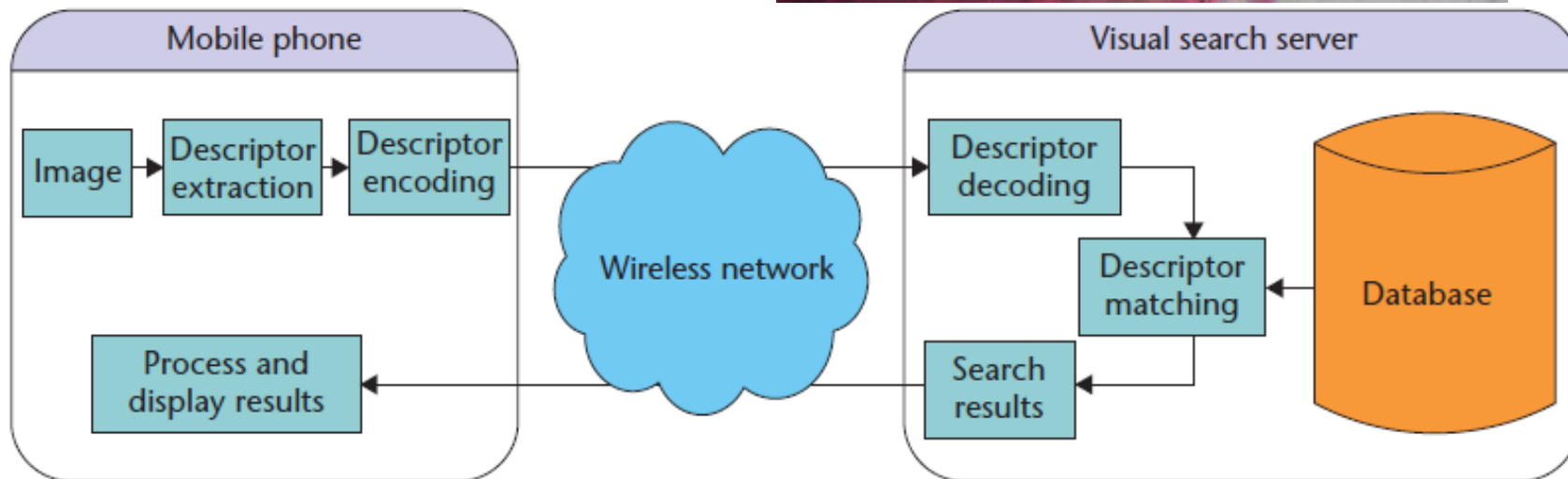
- Free-viewpoint experience of sport events



- Augmented reality

Mobile Visual Search

- Mobile augmented reality
- Advanced mobile services
- Beyond image-based search



Mobile 3D Visual Search

- Search based on 3d geometry



[Stockholm Buildings Database]



<http://people.kth.se/~haopeng/M3DVS/index.html>

Courses at KTH (2nd Year)

- **Obligatory Master Thesis** (30 ECTS)

- XXxxxx Degree Project

- **Obligatory I&E Course** (6 ECTS)

- ME2082 Minor Thesis Project within Entrepreneurship

FDP

- **Additional Obligatory Course** (7.5 ECTS)

- II2202 Research Methodology and Scientific Writing

Courses at KTH (2nd Year)

- **Choose One Obligatory Technical Course**
 - EQ2310 Digital Communications
 - EQ2330 Image and Video Processing
- Elective Courses
 - EQ2340 Pattern Recognition
 - DD2429 Computational Photography
 - EQ2300 Digital Signal Processing
 - EQ2320 Speech Signal Processing
 - EQ2400 Adaptive Signal Processing
 - EQ2410 Advanced Digital Communications
 - EQ2460 Seminar in Wireless Systems

Some Internship Opportunities



MANOMOTION



Some Master Thesis Projects

- Efficient features for movie recommendation systems (*VionLabs*)
- A document recommender based on word embedding (*Meltwater*)
- Machine learning for text-independent speaker verification (*Ericsson*)
- Integral video coding (*Ericsson*)
- Implementation and evaluation of an augmented reality teleoperation system (*Ericsson*)
- Playful advertising: In-game advertising for virtual reality games (*Goo Technologies*)
- Hand segmentation from RGB images in uncontrolled indoor scenarios using randomized decision forests (*ManoMotion*)

Contact

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Course Registration Support:

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Links:

<https://people.kth.se/~mflierl/dmt/>

<https://www.kth.se/student/kurser/program/TIVNM/HT17?l=en>

<https://www.kth.se/social/program/TIVNM/>