# Introduction to MDP in ICT: Data Analytics & Software Engineering

Prof. Timo Knuutila / Data Analytics Asst.Prof. Tuomas Mäkilä / Software Engineering

**UTU Virtual Open Week 2021** 



# MDP in ICT: Data Analytics & Software Engineering

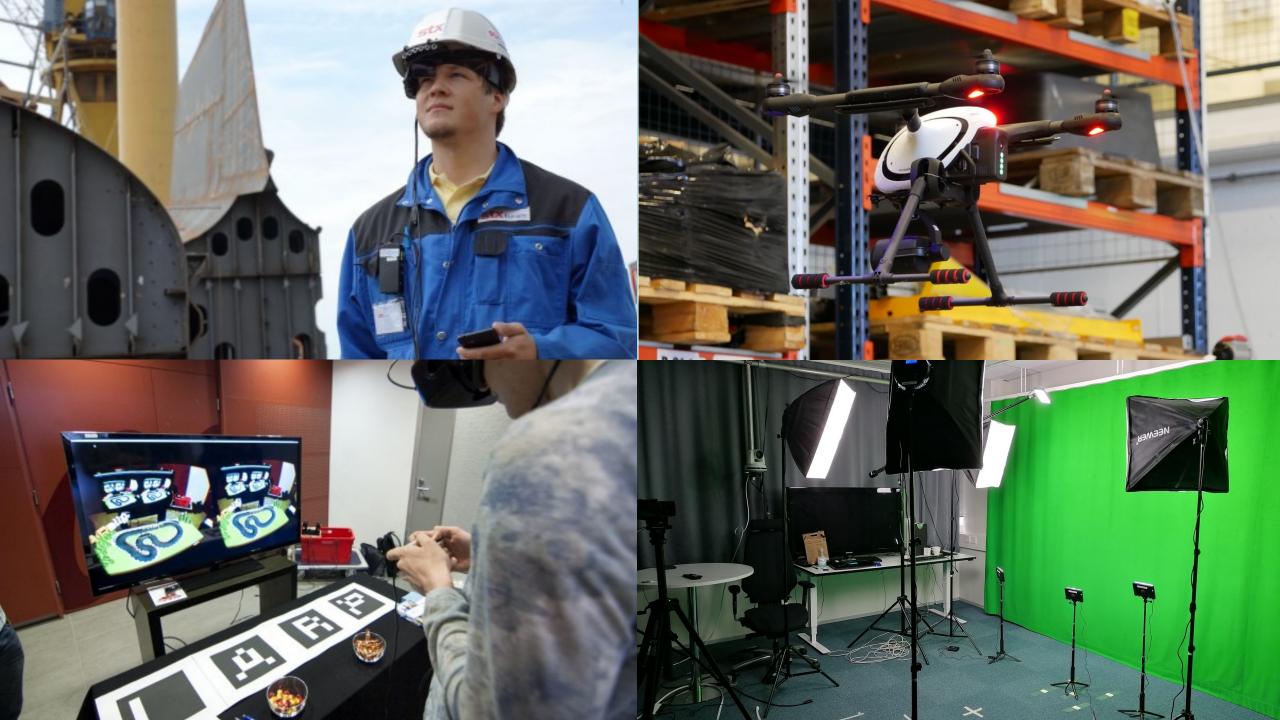




# Department of Computing

- 160 staff members and 1,000 students
- Computer science teaching since 1969, department established in 1988
- Currently part of Faculty of Technology







## International Master's Degree Programmes ICT and Technology

- Information and Communication Technology
  - 1. Data Analytics (new!)
  - 2. Software Engineering (new!)
  - 3. Cyber Security
  - 4. Smart Systems
  - 5. Cryptography
- Materials Engineering (new!)
- Mechanical Engineering (new!)
- Health Technology (new!)
- > utu.fi/degrees

# M.Sc.(Tech.) in ICT Study (120 ECTS) Study Structure

Master's Thesis 30 ECTS

**Advanced studies of Track 10 ECTS** 

#### **Common Advanced Studies 20 ECTS**

- -Master's thesis seminar
- Knowledge & innovation management
- Capstone / Business design project
  - Basics of Finnish language

**Core Module of Track 20 ECTS** 

Thematic Module or Minor subject 20-25 ECTS

**Elective Studies 15-20 ECTS** 



## Data Analytics Specialization Track

- Core module of track (20 ECTS)
  - Data Analysis and Knowledge Discovery
  - Applications of Data Analysis
  - Algorithm Design
  - Machine Learning and Algorithmics Seminar
- Advanced studies of track (10 ECTS)
  - Deep Learning
  - Machine Learning and Pattern Recognition
- Recommended thematic modules
  - Health technology
  - Language technology
  - Software Engineering
  - Smart systems
  - Etc.



### Software Engineering Specialization Track

- Core module of track (20 ECTS)
  - Advanced Course on Software Engineering
  - Software Design and Architecture
  - Software Testing and Quality Assurance
  - Usability, User Experience and Analytics
- Advanced studies of track (10 ECTS)
  - Privacy and Security for Software Systems
  - Programming Paradigms in Practice
- Recommended thematic modules
  - Technology Management
  - Data Science
  - Game Development
  - Interactive Systems
  - Location-Based data
  - Safety-Critical & Autonomous Systems
  - Other M.Sc.(Tech.) core modules

```
T(.../imp/mottles.pmg) no-requi
      /img/phonelco.png) no-report co
```



### **Previous Theses**

- Data Analytics
  - Machine Learning Based Physical Activity Extraction for Unannotated Acceleration Data
  - Remote monitoring of infant's breathing motions using a smartphone to prevent crib death
  - Vehicle Collision Detection based on Synthetic Data using Deep Learning
- Software Engineering
  - Al-assisted Software Development Effort Estimation
  - Monitoring of a Cloud-Based IT Infrastructure
  - Connecting RPA Development and Business



## **Application Details**



## **General Admission Criteria**

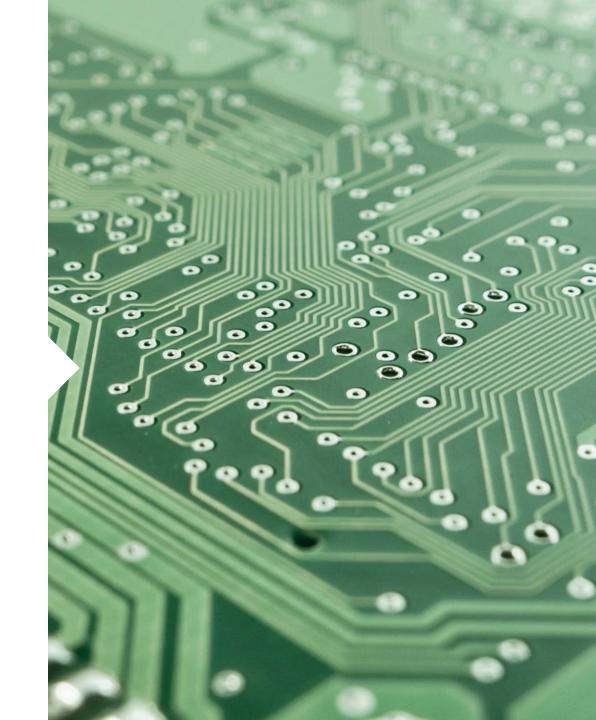
#### **Master's Degrees**

- Bachelor's Degree or other first level University degree
  - minimum 3 years in lenght
  - You can apply with an incomplete degree, if the proof of graduation reaches us by the beginning of August.
- Strong English language skills
  - IELTS 6.5 / TOEFL 90
  - Degree in an English-language programme in Australia, Canada, New Zealand, the United Kingdom, the United States or in an EU/EEA country
  - No exceptions will be made on the language requirements!
- All relevant enclosures must be attached to the application form within one week of the application deadline



## MDP in ICT Spesific Admission Criteria

- Previous degree in a relevant field of study
  - Software Engineering, Computer Science, Information Systems & Information Technology
  - DA: other relevant fields providing sufficient knowledge of statistics, applied math and computer science
  - SE: other relevant fields providing sufficient knowledge of programming and basics of software engineering
- Testimonials of any relevant work experience if exist



## **Application FAQ**

**APPLICATION TIME BEGINS 5 JANUARY 2022 APPLICATION TIME ENDS 19 JANUARY 2022** AT 3 PM (FINNISH TIME) **ADMISSION RESULTS PUBLISHED** 31 MARCH 2022 AND SCHOLARSHIPS OFFERED **ACCEPT OFFERED STUDY PLACE** 15 JULY 2022 **BEFORE 3 PM (FINNISH TIME)** FIRST TUITION FEE INSTALMENT 31 JULY 2022 OPTIONAL SUMMER SCHOOL, **AUGUST 2022 ARRIVAL & STUDENT ORIENTATION** 

Apply in studyinfo.fi

**Tuition fee:** 8,000€-13,500€/year for non-EU students (12,000€ / year for MDP in ICT)

**Scholarships:** available for the best 30 % of students, based on academic merits

#### For further info:

Visit www.utu.fi/degrees
Contact admissions@utu.fi
Learn more about student life:
#utuambassador,
on IG and FB @uniturku

# Time for questions!



#### Don't hesitate to contact us!

Data Analytics: knuutila@utu.fi

Software Engineering: tuomas.makila@utu.fi