STUDENT CHALLENGE

A new Master orientation in electrical engineering, data analytics and Internet of Things (IoT)

The Section of electrical engineering offers, starting next academic year, a new orientation at Ms level on data analytics and Internet of Things (IoT) in order to respond to the growing needs of various industry sectors.

From Fall 2017, the Section of electrical engineering offers a new orientation in data analytics and Internet of Things (IoT). This new educational program offers a complete coverage of the broad set of subjects necessary to design ultra-low power and smart sensors, complete networks of connected objects and infrastructures to perform data analytics in the Internet-of-Things (IoT) era. The proposed core courses provide all the required foundations for IoT system design and optimization, including the key technologies to develop embedded hardware and software architectures for IoT platforms, energy management and energy harvesting techniques, communication protocols and IoT standards for low-power machine-to-machine interaction, as well as machine learning and data mining techniques. All these concepts and technologies are illustrated in laboratory sessions using the latest commercial IoT devices and software tools.

The new program offered by the section aims at producing highly competitive researchers and professionals in that emergent field of electrical engineering. In addition to attending regular lectures offered by our internationally recognized professors, students will participate in various laboratories and group projects. This educational program is a good complement to other current programs in data science (computer science) and robotics (microengineering).

As a complement to this new program, the Section of electrical engineering (SEL) has co-organized the 1st IEEE CEDA Internet-of-Things (IoT) Student Challenge in close collaboration with the IEEE Council on electronic design automation (CEDA) and Texas Instruments (TI, one of the industrial partners of SEL). This event took place in the frame of the 20th edition of the conference DATE 2017 (Design, Automation & Test in Europe) which was held for the first time in Switzerland on the EPFL campus from 27 – 31 March, 2017

In addition to the talks of distinguished plenary keynote speakers from IBM, Microsoft and EPFL, DATE 2017 proposed two special days in the technical program focused on areas bringing new challenges to the system design community: Designing electronics for the Internet of Things era and Designing wearable and smart medical devices, each having a full day including keynotes, panels with executive members in industry, tutorials and technical presentations.

In this context, the 1st IEEE CEDA Internet-of-Things (IoT) Student Challenge offered the opportunity to Bs and Ms students to learn about sensor nodes in the morning and build a complete system in the afternoon, and get two free sensors (Sensortag and Launchpad from TI) to measure their physical activity, thanks to a free app in Apple Store or any Android system. This challenge will be organized every year by the Section of electrical engineering, IEEE and TI, his main industrial partner in the IoT field. It is a fantastic opportunity for our students to learn more on emergent technologies and an excellent complement to the very new orientation offered by the SEL on data and IoT.

Prof. Jean-Philippe Thiran, Head of the Section of electrical engineering

Prof. David Atienza, Head of the orientation in data analytics and Internet of Things

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