The program that your fellow students envy you for.

Our Corporate Challenges

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Challenge 1: Konvoi_Tech
Camera solution for a mobile security application in road traffic

KONVOI offers the first preventive, technologically updateable security solution for parked trucks to protect against vehicle damages, cargo theft and driver assaults. The sensors continuously monitor the close environment of the trucks. The collected data is transmitted to the IoT cloud and enables multiple data services like the planning of more secured routes and a real-time security promise for the supply chain.

4 Key Facts about the Challenge

Challenge Partner
For now we used radar sensors because of data-privacy, economic and night operation reasons. Currently we are working on the challenge of harmonizing radar sensors and cameras to a redundant solution. Therefore our challenge of a assisting data privacy and night-operation camera solution is a really interesting next step.

Mentor & Industrie Experte
Heinz is Co-founder and responsible for Business & Strategie at Konvoi and has a strong background in Logistics and Supply Chain. By this he and his Co-founder Alexander transforming the logistic marktet with a new Security-as-a-Service approach for trucks.

Technical Challenges
Selection of a suitable camera technology based on requirements: Price, size, communication interfaces, Image quality and field of view for day and night images, Selection of suitable image quality for processing by AI
Anonymization of images before processing and storage: Anonymization of individuals, Restricting the field of view to the area at risk
Data cloud upload: Storage of data on edge, Upload to the cloud for AI, automated deletion of the recordings after use by the AI

Why is it important
Solving this challenge helps to develop a preventive security solution to make road freight transport safer with the help of a customised alarm chain in the form of an intelligent algorithm.

Why you should a apply and what you will learn

In this challenge, you will gain insight into the product development of harmonizing radar sensors and cameras to a redundant solution. Therefore the challenge of a assisting data privacy and night-operation camera solution is a really interesting next step.

Heinz Luckhardt
Co-founder, Managing Director

Challenge 2: Limen Digital
Perfumes for Digital Experiences

LIMEN creates fragrances and olfactory experiences based on the digital. Using our technology and the expertise of our perfumers, LIMEN enriches online interactions and expands the digital world through the sense of smell.

4 Key Facts about the Challenge

Challenge Partner
Connecting the sense of smell with the digital we can fill the sensory and emotional incompleteness we experience in the online world.
Enrich the experience implementing the olfactory component. We craft phygital perfume, products that deliver experiences & create data-based fragrances and olfactory experiences.

Mentor & Industrie Experte
Michele Tiberio is the co-founder of LIMEN Digital, a designer and lecturer in User Experience and design research and an artist. He started his career in London working as UX and strategy designer for start-ups in the technology and sustainability field.

Technical Challenges
After successfully manufacturing a few high fidelity prototypes, it is now time to take our product to a manufacturing ready state. We wish to transform our micro-controller based electronics system in a scalable and modular PCB assembly. In parallel, we are actively finishing our App Mock-ups and would start with its development to enable both device control and interaction but also give access to our marketplace.

Why is it important
By solving this challenge the device can be easily manufactured and deployed to a wide range of users and for different applications in a pre-series production round.

Why you should a apply and what you will learn

Are you looking for a true real life challenge in PCB design or want to sharpen your development skills by working on an app beta version while working on an emerging technology ? Then this challenge is for you.

Michele Tiberio
Co-Founder & Managing Director

MotorSkins

Our HMI technology consists of the reactive textile and a connected electrofluidic system. The reactive textile component is a multilayer textile composite with embedded fluidic channels and chambers. Depending on the geometry of these as well as the material properties, different movements of the textile in response to changes in internal fluid pressure can be created.

4 Key Facts about the Challenge

Challenge Partner

MotorSkins is a Berlin-based startup that brings together textiles, soft robotics, and fluidics to create a new category of products in the field of human-machine interfaces (HMI). Our reactive textiles technology allows for the seamless integration of movement into textiles, creating opportunities for wearable devices and smart clothing that interact with the human body in novel ways.

Mentor & Industrie Experte

José, Facundo, Juan, Nils, Madeleine and Mar form a strong multidisciplinary team with various technical backgrounds helping Motorskins become a true player in the HMI industry today.

Technical Challenges

Define together a use case for the HMI and adapt the design of the current electrofluidic system. Programming the microcontroller (arduino or esp32) of the electrofluidic system. Real time detection of different input gesture and interaction modes of the user with the reactive textile through air pressure changes within the system. Providing haptic feedback to the user by designing and programming rapid pressurization and depressurization sequences of the electrofluidic system. Connecting the system to a remote device using a web server
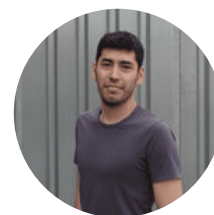
Why is it important

Our reactive textiles combine the fields of soft-robotics, fluidics and textiles, resulting in a smart metamaterial that can perform different functions.

Why you should a apply and what you will learn

Our main application of HMI is currently in automotive interiors but we are looking for innovative solutions that leverage our reactive textiles technology to create new possibilities, be it for the future of wearables, smart clothing, virtual reality or other fields. This challenge will give you the opportunity to work on a real-world problem, gain hands-on experience with cutting-edge technology, and develop skills that will be valuable in your future careers.

José Villatoro
Process / IP

Apply online now until 19.05.2023!
Why should you apply?

+ **Exclusive job and workshop offers**
Expand your network into the startup and corporate world and get access to exclusive job offers and exciting projects before anyone else.

+ **Learn new skills around IoT and project management**
Develop technical hardware and software solutions as a team. Combine theory and practice and gain a clear advantage over other applicants.

+ **IoT Talent Certificate**
Upon successful completion of the program, you will be awarded the IoT Talent Certificate, which will set you apart from the crowd as an expert in IoT, product development and project management.

+ **Get a chance to be enrolled in a Sparta Coding Club Program**
Apply for one of the 10 available spots in our special batch of a full stack development learning program with our partner Sparta Coding Club.

Apply online until 19.05.23

The application takes a maximum of 10 minutes and max. 5 days later you will know the results.

Step 1: Choose your favorite challenge
Step 2: Fill out the Online application form
Step 3: Know if you're in within two business days.
Step 4: Start on 22.05.23 with us in the 10 weeks program