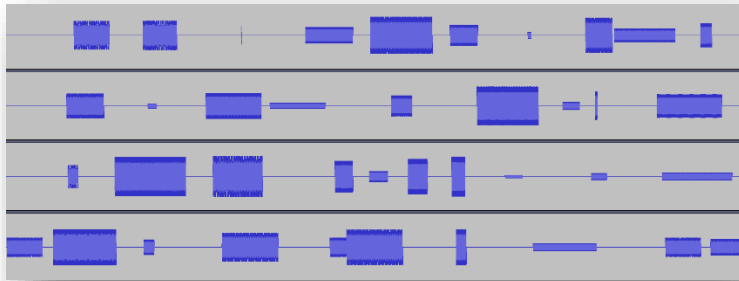


Eurohaptics 2024 Job dating

Industry Role

Alternance @ InterDigital (Rennes, France)



Job Title: Haptic Representation & Encoding

Company or Institution Name: InterDigital

Location: Rennes, France

Job Type: Contract

About Us:

InterDigital develops fundamental wireless and video technologies that are at the core of consumer devices, networks, and services worldwide. We solve many of the industry's most critical and complex technical challenges, providing solutions for more efficient broadband networks and a richer multimedia experience years ahead of market deployment. InterDigital has strategic relationships with many of the world's leading wireless and video companies. Founded in 1972, InterDigital is listed on NASDAQ and is included in the S&P SmallCap 600 Index.

The Interactive Media team is a team of highly motivated, fast paced, and highly skilled researchers with strong backgrounds in Computer Graphics, Computer Vision, Deep Learning, media content representation & coding, Interaction, and Extended Reality related to avatar representation and haptics. We actively participate in state-of-the-art future standards development activities in international standardization organizations such as ISO/IEC MPEG, ITU-T/SG16, 3GPP SA4 and Khronos.

Job Description and key responsibilities:

The recent democratization of virtual reality has strongly re-invigorated the research and development on haptic technologies. This growing interest in the haptic community resulted in the release of numerous haptic products, including new consumer devices, authoring tools and plenty of haptic enabled VR experiences. However, this wide range of available haptic devices and haptic tools gave birth to a multitude of proprietary formats which make interoperability problematic. This slows down market adoption and raises the need for providing standardized

Eurohaptics 2024 Job dating

formats and methods to encode and decode haptic signals. To address this limitation, two major standard organizations are currently working on coded representations of haptic data. InterDigital is especially involved in the standardization process of haptics through the ISO/IEC MPEG-I standard. This standard provides a first base for encoding both PCM and parametric signals for a variety of haptic modalities (vibrotactile, temperature, force, electrotactile, ...)

InterDigital is looking for a student to join its team of researchers and engineers working on haptics. The candidate will join the Interactive Media team to work on haptics encoding in a standardization context. The position will consist in studying the state of the art in haptic signal compression and propose new methods to improve current encoding standards, typically with new signal processing solutions and new parametric representations to encode different haptic modalities (kinesthetic and electrotactile). Part of the job will also consist in developing proof of concepts and demos to tests new solutions (inc. a haptic vest, a robot arm and a haptic chair).

Requirements:

- Master in Electrical Engineering, Computer Engineering, Applied Math, or Computer Science. Position will be commensurate with the candidate's qualifications and relevant experience (internship, summer jobs, school projects...).
- Proficient in C++ programming.
- Excellent written and verbal communication skills. Strong team player.
- Comfortable in English (reading, writing, and speaking).
- Some experience in Computer Graphics or Virtual Reality is a plus.
- Some experience on Unity/C# is a plus

Preferred Qualifications:

You have a track record on one or several of the following domains or performed your studies in one or several of these domains: Signal processing, Computer Graphics, VR/AR/XR, Computer Vision, Electronic, Robotic. You enjoy innovating and researching novel techniques and are not afraid of addressing new topics such as haptics or extended reality. You have a keen eye on complexity aspects related to the algorithms you are developing. You are a team player, in a multicultural environment, sharing knowledge and expertise with your colleagues.

How to Apply:

Interested candidates are invited to submit a resume to quentin.galvane@interdigital.com, gurvan.lecuyer@interdigital.com and philippe.guillot@interdigital.com. Please include the subject line: "[Job Title] Application - [Your Name]".

Presence at Eurohaptics 2024 in Lille, France:

We will be participating in one of the demo and poster sessions (search for InterDigital name in the agenda). Please come to see us for an in-depth discussion about this job opportunity and a preliminary interview.