Sony manufactures audio, video, imaging, games and mobile communication products for the global consumer and professional markets. With its music, pictures, games and online businesses Sony is uniquely positioned to become a leading personal broadband network company in the 21st century. Sony’s European electronics operations cover a full range of activities from R&D, design, engineering and manufacturing to marketing, sales and service.

The Stuttgart Technology Center (STC) is where innovations and future generations of products are being developed to meet the requirements and needs of the worldwide markets and customers.

The Computational Imaging Group (CIG) works at the interface between optics and digital signal processing and develops new concepts in the field of digital imaging. We offer an:

**Internship / Master thesis position in the field:**

**Deep learning in computer vision and image processing**

It has been shown that several computer vision and image processing tasks can be performed by means of deep neural networks. Implement and evaluate the performance of deep learning based image processing and computer vision algorithms and compare them with conventional state of the art algorithms. To achieve this task learn to use deep learning software like NNabla or PyTorch and run the trainings on GPU.

**Tasks during the internship:**

- Literature search for getting an overview in existing (conventional) solutions of image processing and computer vision algorithms.
- Literature search for Deep learning in the field of image processing and computer vision.
- Familiarize with a Deep learning framework (NNabla or PyTorch).
- Identify problems and challenges in designing the Deep learning architectures.
- Benchmark the best Deep learning based solution with conventional approaches.

**Required qualifications:**

- Programming skills in Python. Skills in NNabla, PyTorch or similar are helpful.
- Knowledge of machine learning and statistics. Basic knowledge of image processing helpful.
- Enrolled as a student at a university in the field of mathematics, computer science, electrical engineering or similar.

If you are interested in an internship or a Master thesis at Sony, please send your application (cover letter, CV, list of attended lectures with grades) via email to:

**cig-internship@eu.sony.com**
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