Sony manufactures audio, video, communications, and information technology 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.

Our **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.

In our STC **European Technology Center** (EuTEC) our engineers are providing advanced European Audio and Video Technology for worldwide and European specific CE devices. The R&D is ranging from architecture and algorithm to software and standardization in the areas of optical technology (illumination and projection systems), digital transmission technology (digital radio and TV, near field communication and power-line communication), TV picture improvement (HDTV and MPEG on flat-screen displays) as well as standardization (DRM & Media Standards, DVB, NFC, PLC).

We are offering a

Research Internship on Personalization and Recommendation

Recommendation is the task of automatically determining, from a set of possible items – for example, music pieces, books or videogames – a subset of items that will probably be liked by a given user. This mechanism allows products to be personalized, i.e., each customer receives different personalized recommendations according to their taste. Some knowledge about the user is assumed, like e.g. his buying history, or a set of items that has been explicitly rated by this user as "good" or "bad".

A related field is information retrieval, where a subset of relevant documents has to be retrieved from a collection of documents, given a user query. This task is similar to a web search task.

The successful internship candidate will work on new and recently developed algorithms for recommendation and information retrieval, such as collaborative filtering techniques, matrix decomposition algorithms and restricted Boltzmann machines. The main purpose of this research is the improvement of the current recommendation engine for Play Station, meaning that the successful candidate will work on real data from our database on PlayStation transactions and ratings. The work will span all parts of the research and implementation process: literature study, quantitative experiments on different PS-databases and efficient implementation in Matlab/Java/C.

We are looking for a dedicated student with background in mathematics. Our ideal candidate is familiar with Matlab and Java (knowledge in MEX programming for Matlab, or C language is a plus), has experience with Linux, and some working knowledge handling large amounts of data. If you are interested in research, you find the topic interesting and you would like to actively participate in the team oriented, dynamic environment of an international company, please send a CV including your grades and your availability to the address below. The duration of the internship is 6 months, the start as soon as possible. A compensation of 1000 Euro per month is paid.

Sony Deutschland GmbH
Speech and Sound Group -- ssg@sony.de