SFB/TR 8 Spatial Cognition / IQN
Video Conference

Prof. Natheer Khasawneh
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Overview of My Research

In this talk, Dr. Natheer Khasawneh will present an overview of his research. He will talk about four areas.

1. **Automatic sleep staging:** Human sleep goes into different stages. The identification and classification of these stages are crucial for the identification of many sleep disorders, such as Obstructive sleep apnea. In our research, we applied several signal processing techniques along with artificial intelligence and data mining algorithms to automatically classify and identify different sleep stages.

2. **Web Engineering:**
   a. We developed a framework that collects and analyzes user's interactions while using web applications to predict user behavior and identify user mindfulness.
   b. We proposed an approach to improve image search results by calculating and incorporating the physical distance between an image within a webpage and its related terms in same webpage.
   c. We showed how data-mining techniques could be used to reduce speech corpus database in text-to-speech systems.

3. **MS Kinect:** We used Kinect, a hand free controller for MS Xbox 360, in two applications: A sign language to speech and text translator, and a physical therapy assistant.

4. **Smart phone application:** We implemented two smart phone applications: A snoring detection application to help diagnosing Obstructive Sleep Apnea (OSA), and an automatic assessment of binocular alignment using the Hirschberg method.

Freitag, 06. Juli 2012
informelle Kaffeerunde: 15:15
Vortragsbeginn:15:30
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