

Workshop on the Interaction of Vision and Language in Cross-Modal Comprehension

Presentation 4

From Interaction between Language and Visual Representations to the Interaction between Language and Haptic Representations

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Short Abstract: While the Visual World Paradigm sets a foundation for the understanding of how integrated representations are built from visual and language representations, it is rarely investigated what notion rules the combination of multimodal input from haptics and language into a single integrated conceptual structure. In this workshop slot, we will first focus on knowledge acquisition from the haptic world by a blind person compared to knowledge acquisition from the visual world by a normal-sighted person. There are significant differences between the visual modality and the haptic modality: compare an instant, global, highly detailed, visual impression with the sequential, local, low frequency haptic exploration of the world. Advances in haptic research concerning insight on building up conceptual survey knowledge of space without vision will be highlighted. Then, we will investigate how shortcomings in the acquisition of spatial information in the haptic modality can be levelled by suitable augmentation of information in other modalities, in this case with propositional information presented through language. We will compare the findings, methodology and knowledge gained in the research concerning the interaction between language and visual modality with the latest findings in the research about the interaction between language and the haptic modality. First results on how haptic maps augmented with language may contribute to blind people's survey knowledge will be discussed. Based on the identified problems and open questions a preliminary research agenda for the PhD project is proposed.