

Curriculum Vitae

Stephan Raidt, Master of Science in Electrical Engineering (M.Sc.E.E)

Education:

- Since 2004 **Doctoral Thesis**, INP-Grenoble, Institute of Speech Communication - ICP, Grenoble, France
‘Communication face-à-face entre un locuteur réel et un clone parlant. Contact visuel et monstration multimodale dans un univers virtuel.’
➤ **mutual attention, face-to-face conversation, eye gaze, deixis, embodied conversational agent**
- 1998 – 2004 **Electrical Engineering studies**, Technische Universität Dresden, Germany
specialization: Information and Communication Technology; acoustics and speech communication
➤ **Master of Science in Electrical Engineering (M.Sc.E.E)**
Degree: **Good**
- 1995 – 1998 **Apprenticeship**, theoretical and practical formation, Physical Institute, Universität Tübingen, Germany
➤ **maintenance and construction of electrical equipment**
Degree: **Good**

Practical Experience:

- 2003 **Klippel GmbH**, transducer diagnostics & control systems, Dresden, Germany
8 months internship: **Loudspeaker Analysis**
➤ **Master Thesis: “Estimation of Linear and Nonlinear Loudspeaker Parameters”**
- 2003 **IBM**, European Speech Research, Mannheim, Germany
3 months internship: **Speech Synthesis**
- programming of an auditory test as a web site
- localizing voiced parts of speech
- domain specific speech synthesis
- 2002 **INP-Grenoble**, Institute of Speech Communication - ICP, Grenoble, France
6 months, assistant student: **Speech Synthesis**
➤ **Comparing two systems for generation of prosody**
- recording and labeling of a speech corpus (spoken mathematical formula)
- implementation of IGM (prosody model by H. Mixdorff)
- parameter extraction from text and speech data analysis
- training of a neural network
- numerical and subjective evaluation
- 2001 **Technische Universität Dresden**, Institute of Acoustics and Speech Communication, Dresden, Germany
assistant student: **Labeling of Speech Data**
- 2000 **Klippel GmbH**, transducer diagnostics & control systems, Dresden, Germany
assistant student: **Loudspeaker Analysis**

Publications

Raidt, S.; Bailly, G.; Holm, B.; Mixdorff, H.:
Automatic generation of prosody: Comparing two superpositional systems.
Speech Prosody 2004, international conference, 23.-26. March 2004, Nara, Japan

Bailly, G.; Elisei, F.; Raidt, S.
Multimodal Face-to-Face Interaction with a talking face: Eye Gaze, Mutual Attention and Deixis.
Human Computer Interaction - HCI International 2005, 22.-27. July 2005, Las Vegas, USA – accepted

Application for eNTERFACE 2005

Stephan Raidt, ICP, Grenoble, France

I would like to apply for the participation in one of the following projects of the eNTERFACE Workshop:

- **Combined Gesture-Speech Analysis and Synthesis**
- **Multimodal Focus of Attention in an Augmented Driver Simulator**
- **A Multimodal Interface for 3D Model Search and Retrieval Integrated in a Virtual Assembly Application**

The topic of my doctoral thesis is the face-to-face communication of a human interlocutor with a talking head as an animated conversational agent. My major interests are:

- **mutual attention**: use of facial movements and eye gaze for the attraction and maintenance of the attention of a human interlocutor, the interpretation of his gestures to identify his focus of attention, analysis and modeling of turn taking cues during a conversation
- **audiovisual scene analysis**: tracking of eyes, gaze direction and facial movements, localization and identification of a speaker through video and audio analysis
- **audiovisual scene synthesis**: synthesis of speech, eye movements and facial movements, incorporation of the real and the virtual world into an integrative field of interaction
- **deixis**: directing the attention of a human interlocutor by the means of speech, head and eye movements of the talking head

My thesis supervisors are Gérard Bailly (ICP) and Laurent Bonnaud (LIS) as a second supervisor, who is also one of the coordinators of the workshop. Both are members of SIMILAR

Currently we are putting a new experimental laboratory ('MICAL') into operation. It is equipped with two eye-tracker monitors and another orientable monitor with mounted cameras and microphones. It will be used for various experiments on human-machine interaction (e.g. impact of mutual attention and embodiment on performance and learning) and would permit to implement and continue the results of the workshop.

My literature research builds up, amongst others, on studies about

- **pointing and deixis** (Kita, Butterworth, Goldin-meadow, Kendon, Masataka, Povinelli)
- **eye movement, eye gaze and perception** (Vatikiotis-Bateson, Langton, Liversedge, Vertegaal, Baron-Cohen)
- **humanoid interactive robots** (KA 588, WE-4R, Robita, Kismet)
- **embodied conversational agents and talking heads** (Pelachaud, Massaro, Cassel, Beskow)

As for skills relevant to the projects, I have experience in the programming with **Matlab**, **Scilab**, **C** and **Perl** and the use of **PRAAT** as well as a profound knowledge of **speech synthesis and recognition, signal analysis, system analysis and statistics**. I work with **Windows** and **Linux** including the common text processing tools. For my experimental setup I use 'tobii technology' eye-trackers and software. For the workshop I could supply a high performance laptop with excellent multimedia facilities. My first language is German and I speak fluent English and French.