



2017-11-08

Ph.D. student in Computer Science to BTH, Blekinge Institute of Technology with placement at the Department of Creative Technologies, Karlskrona

Reference number: BTH 3.1.2-0408-2017

Work description:

Recent years have seen a tremendous increase of visual information being delivered to corporate and consumer markets along with interaction over a variety of human-machine interfaces as well as fixed and mobile networks. As such, we are at the beginning of a new era of immersive experiences that aims at enhancing everyday experiences, providing new ways on how people communicate with each other and in collaborate groups, and making these experiences more realistic, engaging, and satisfying.

This Ph.D. position is associated with the research project “Human-centered computing for novel visual and interactive applications” funded by the Knowledge Foundation of Sweden in co-production with industry. As a Ph.D. student you will conduct original research in the areas of visual perception mechanisms that contribute to quality and immersion as perceived by humans. The research provides opportunities to address issues related to visual cues that impact human perception of novel visual and interactive applications with main focus on virtual reality (VR), to develop perception-based quality models, and to derive objective perception-based metrics that quantify the quality and immersion as perceived by humans. The work may expand to optimization methods that can pool quality estimates from human perception, human-machine interface, and networked VR into an overall quality estimate. The Ph.D. student also has the opportunity to participate in the development of a visual and interactive computing laboratory and a project showcase hosted by the Blekinge Museum.

The position includes theoretical analysis, practical experiments, algorithm design and software implementation, as well as documentation in the form of scientific articles and reports. Teaching may be included at a level not exceeding 20%.

Eligibility:

Applications are invited from candidates holding a Masters degree in computer science, radio communications, wireless communications, telecommunications, telecommunication systems, or other relevant disciplines.

Meriting qualifications:

- The candidate will preferably possess strong background in at least two of the following areas: visual perception, experimental design, mobile multimedia processing, quality of mobile multimedia experience, statistical analysis, optimization methods.
- The candidate should have strong analytical (mathematical) skills.
- Ability to work both independently and in a research team
- Ability to formulate and solve scientific problems
- The candidate must be fluent in English (written and spoken).
- Practical experience is desirable, for example, conducting the Masters thesis in industry.

Salary:

A unified salary staircase applies to Ph.D. students, which means that the salary is adjusted in line with the progress made during the Ph.D. candidacy.

Employment:

100 %

Commencement:

2018-01-01

Duration:

Temporary employment. The duration of the position will be a maximum of 5 years comprising of 80 % research and 20 % departmental duties.

Contacts:

Veronica Sundstedt (Head of Dept./Project owner), phone +46 455-385850

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Application:

Please submit your application, marked with the reference number for the position, by November 30, 2017 at the latest by email to diarium@bth.se. The application shall include a cover letter describing your interest in the employment and the research area, your resume, and copies of diplomas and other documents that verify your qualifications.

Others:

We have chosen media for this recruitment and therefore avoid contact with advertisers or other recruitment services.

Department of Creative Technologies

The Department of Creative Technologies (DIKR) was established on January 1, 2014. DIKR belongs to the Faculty of Computing and currently comprises of 22 members including professors, researchers, lecturers, and administrative staff.

The department focuses on visual and interactive computing, which includes disciplines such as computer graphics, visualization, game technology and computer use where people are at the center. A rapidly growing challenge is the collection, processing, analysis and appropriate visualization of data. Other relevant and central challenges include how people interact effectively with computers and how acquired knowledge can be integrated into design and development processes of new technical solutions. Example application areas of visual and interactive computing include digital game technologies, mobile multimedia, virtual reality (VR), augmented reality (AR), mixed reality (MR) entertainment, infotainment, health, public sector, etc. Our research is mainly in the following areas:

- *Computer graphics and visualization: Modeling, animation, rendering, VR, AR, analysis and processing of image and video data as well as effective visualization and communication of 2D and 3D data.*
- *Digital game development: Game development processes, new interaction technologies (biofeedback) for games, serious games, and games for entertainment.*
- *Methods and techniques for human-computer systems: Human-computer interaction, interaction design, visual perception, user studies and eye control and eye tracking techniques.*

BTH, Blekinge Institute of Technology

Blekinge Institute of Technology, BTH, is one of the most distinctly profiled universities in Sweden, where applied IT and innovation for sustainable growth are in focus. In our education and research, engineering and IT are integrated with other disciplines such as urban planning, industrial economics, design and health sciences to contribute to solving the challenges facing society. Everything we do at BTH has three distinct perspectives: innovation, sustainability and in real life, which means cooperation and exchange with both business and industry as well as society. A characteristic of BTH is the close cooperation with industry and society, which permeates both education and research at the regional, national and international level. We conduct education and research at a high international level. BTH has two faculties – the Faculty of Computing and the Faculty of Engineering.