Data Intensive Visualization and Analysis

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Researcher - Postdoc

in Computer Science (3D Graphics and Visualization)

Job Summary

Open position for a Postdoc in the area of real-time 3D graphics and interactive scientific visualization at the University of Zürich. This position is for an Experienced Researcher (ER) in an EU-FP7 Marie Curie Actions Initial Training Network called DIVA: Data Intensive Visualization and Analysis.

Description

The DIVA project is an international EU-FP7 Marie Curie Initial Training Network (ITN) with a focus on structured and collaborative research and teaching activities in Data Intensive Visualization and Analysis methodologies in data-driven science and technology application domains. DIVA involves three academic institutions (University of Zürich, University of Rostock and Chalmers Technical University), one research lab (CRS4) and two industrial partners (Diginext and Holografika).

Project

This open position is for an experiences researcher, Postdoc, specifically in computer science with a focus on interactive 3D computer graphics and scientific visualization. With the continuing advances in data acquisition and simulation techniques, increasingly large 3D data sets have to be processed and interactively displayed for real-time visual exploration. The emphasis of the open position in this context is on the efficient scalable out-of-core and parallel visual data processing of very large spatial and volumetric data sets, including advanced data processing tasks such as e.g. feature extraction, segmentation, data completion, fitting etc. Currently targeted application domains include the aerospace industry, advanced display systems, bio-medical imaging, geo-visualization, urban planning, architectural modeling, material science, molecular visualization and more. Increasingly we will focus on in-time data processing and preparation for interactive visualization in the context of specific application domains.

On the part of the applicant, this requires interest and experience not only in graphics related algorithms and data structures but also in the task and data complexity of the targeted applications, and collaboration with domain scientists and other institutions. Furthermore, a strong interest and good skills in learning new programming frameworks, 3rd-party code and applied mathematics is necessary, as the targeted research project also builds on other and previously developed techniques.

The activities of the position not only include research and continuing training, but also support in teaching as well as administrative tasks and project management. The main research goal is to conduct excellent research generating results which are published and presented in top international journals and conferences.

Company

This advertised position is at the University of Zurich (UZH), which is an internationally recognized research university with faculties in medicine, humanities, economics as well as mathematical and natural sciences. UZH is the largest university in Switzerland and ranked among the top world leading research universities, e.g. according to the Academic Ranking of World Universities by Shanghai Jiao Tong University, and has recently been ranked top 15 in Europe. The Department of Informatics (IFI) covers major computer science and information management research and teaching topics, it offers BSc, MSc as well as PhD degrees in computer science.

DIVA: Data Intensive Visualization and Analysis

Workplace

The Visualization and MultiMedia Lab (VMML) and IFI, are located in the vibrant city of Zürich as part of the university's new Nord-Campus in Oerlikon in a renovated modern office building. The UZH Nord-Campus is conveniently located a short walk off the Max-Bill Platz, center of the new trendy living, shopping and business district New Oerlikon, as well as near the Oerlikon train, S-Bahn and tram stations. Also the Zürich international airport (ZRH) is reachable within minutes with public or private transportation.

The DIVA project involves frequent interactions, internships, workshops and summer schools with the other international network partners. Hence the workplace incorporates short stays at other research labs and companies in other European countries and cities (i.e. Switzerland, Italy, Germany, Sweden, France and Hungary).

Benefits

ER fellows and Postdocs are remunerated according to EU-FP7 regulations for Marie Curie ITNs as well as according to local host regulations. ER and Postdoc appointments will be made with respects to local host university and company guidelines. Same applies for fringe benefits and vacation days.

Comment/web site for additional job details

Applicants are obliged to engage in the DIVA training and research activities.

For application and further information contact: Prof. Renato Pajarola, pajarola@ifi.uzh.ch

Requirements

A PhD degree in computer science with a focus on 3D computer graphics and scientific visualization from an internationally recognized university is required. Applicants must not have worked or resided in Switzerland for 12 months or during the last 3 years.

The prospective candidates are supposed to have an excellent background in computer science and systems as well as strong mathematical skills and extensive experience with computer graphics and visualization. Exposure to parallel programming and distributed systems is also welcome. Strong interests in numerical methods and collaboration with domain scientists is of further importance as well.

Applications must include a detailed CV/resume, information of university level educational background and practical work experience in computer science, a short statement of motivation and clear exposition of prior graphics and visualization experience. Certified copies of transcripts, degrees and reference letters may eventually be required.

Dates and More

- Entrance is subject to the successful evaluation of candidate(s), expected for November 2011
- Duration is expected to be 2 years for Postdocs

Contact

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