9 September 2022

The Zuse Institute Berlin (ZIB) is a non-university research institute under public law of the state of Berlin. We conduct research and development in applied mathematics and computer science as well as the analysis and processing of complex data in conjunction with high-performance computing.

For the Visual Data Analysis research group, which is part of the division Mathematics of Complex Systems, we offer – subject to the allocation of funds - a fixed-term contract from 1 October 2022 until 31 March 2023 for a

Research Position (m/f/d)
Reference Code: IWA 41/22
Pay Grade: E13 TV-L Berlin (100%)

Job description – project goals

The task is to develop methods for the geometric reconstruction of the skeleton morphology of the head of basking sharks from 3D computed tomography (CT) data as well as 2D images and/or videos. In particular, we are interested in the mouth’s skeleton geometry in open position. The task includes

- segmentation of skeletal elements of sharks in 3D CT images;
- reconstruction of shark skeletons using 3D shape models and 2D landmarks;
- improvement of the geometric model for fluid simulation of the shark’s filter apparatus.

The work is part of the HFSP project "Integrating materials, behavior, robotics and architecture in giant filter-feeding sharks" and is carried out in collaboration with the University College London (UCL).

Your profile

- Master degree in mathematics;
- experience in using the Amira software for image segmentation and analysis;
- experience in the use of shape models for geometry reconstruction from 2D landmarks;
- experience in software development with C++, ideally in the Amira framework;
- some knowledge in visualization and visual data analysis;
- high degree of self-reliance and commitment;
- good command of written and spoken English.

Are you looking for a new professional challenge? Then this is the place to be! Become part of our international team!
It would be favorable if, additionally,

- you are interested in meteorological questions/issues;
- you have good communication and teamwork skills, both internally and across disciplines;
- you are interested in interdisciplinary work.

The scientific publication of the results in English as well as the participation in international and national conferences is expected and made possible.

We offer a family-friendly working environment through flexible working and meeting times, excellent equipment and a challenging professional environment.

Additionally, we offer

- a multifaceted, future-oriented and demanding field of activity,
- comprehensive training in a competent and cooperative team,
- an additional pension scheme (VBL),
- 30 days annual leave, flexible working hours (flexitime),
- a salary in accordance with TV-L (Collective Agreement for the Public Service of the Federal States), taking into account the relevant professional experience,
- an end-of-year bonus,
- discounted BVG (public transport) ticket as part of the capital city allowance,
- and the use of canteens and sports programs of the Freie Universität Berlin (FUB) at reduced rates.

Female applicants are highly encouraged to apply. Since women are underrepresented in information technology, the ZIB is trying to increase the proportion of women in this research area.

Applicants with disabilities will be given preference if equally qualified.

Please send your application, quoting the reference code IWA 41/22, including a cover letter containing a statement of your research interests, a CV with a list of publications, academic transcripts, and contact details of two references, by 15 September 2022 (date of receipt) in pdf-format (one file) to: jobs@zib.de

Our private policy statement regarding application data is available at www.zib.de/impressum.

For further information about the position, please refer to our website www.zib.de or contact Dr. Daniel Baum (baum@zib.de).

For further job offers please visit our website at www.zib.de/jobads.