University of Veterinary Medicine, Vienna

Veterinaerplatz 1, 1210 Vienna, Austria
www.vetmeduni.ac.at

The University of Veterinary Medicine Vienna (Vetmeduni) works to safeguard the health of animals in Austria through its teaching and research activities and through the services it offers. These tasks represent our contribution to keeping people and their animal companions healthy and to ensuring the production of healthy food. To meet our objectives,

our **Institute University Clinic for Ruminants, Clinical Unit for Herd Health Management, in collaboration with the Precision Livestock Farming Hub (Institute of Animal Welfare Science; both at the Department for Farm Animals and Veterinary Public Health)** is looking for a

Scientific Project-Assistant (Pre-Doc)

PhD student working on „Deformable Visual Simultaneous Localization and Mapping (SLAM) for bio-medical applications”

Grade:	B1 Pre-Doc
Level of employment:	30 hours
Length of employment:	3 years
Deadline for applications:	6.9.2023
Reference number:	2023/0253

Digitalisation in livestock farming is advancing rapidly. One of the factors contributing to this development is the increasing use of sensor technologies, e.g. for animal monitoring. In this context, Precision Livestock Farming technologies support the management of animals by continuous, automated, real-time monitoring of production/reproduction, health and welfare, integrating a bioengineering approach to human-animal interaction that offers wide-ranging applications and benefits.

This PhD position is organized in collaboration between the Clinical Unit for Herd Health Management in Ruminants (www.herdhealth.at) and the Precision Livestock Farming HUB (www.vetmeduni.ac.at/plf-hub) of the Vetmeduni Vienna. The project focuses on the development of automated methods for image based estimation of feed intake and body condition in cattle.

Responsibilities

We are looking for a PhD working on Deformable Visual Simultaneous Localization and Mapping (SLAM) for bio-medical applications. The candidates are expected to conduct fundamental research and at the same time contribute to ongoing projects. Outstanding students from the areas of computer vision and soft matter modelling are invited to apply. The work will be conducted in English. The starting date is October 1st, 2023

Necessary knowledge and qualifications

- M.Sc/M.Eng in Mathematics/Physics/Computer Science/Engineering and related fields (studies with a total workload of 300 ECTS)
- Good English language skills in spoken and written (B2)

- Portfolio of source code written by the applicant, demonstrating relevant abilities
- Class B driving licence

Skills and Abilities

- Good German skills (B2)
- Strong background in mathematics (linear algebra, optimization, regularization, and probability)
- Good knowledge of physically based rendering and ray-tracing
- Excellent programming skills in C++
- Experience in GPU programming Cuda/OpenCL/ROCm
- Experience of multi-GPU HPC programming
- Experience in parallel algorithm design and optimization
- Knowledge of inverse rendering (shape-from-shading, single image 3D reconstruction) techniques
- Knowledge of particle based real-time soft-matter multi-physics techniques, SPH/PIC/FIP/MPM, Kirchoff rods.
- Excitement to work with and contribute in the development of open-source software packages in machine perception including computer vision.

We offer

- Top university: the Vetmeduni is one of the leading academic institutions in Europe to offer education in and undertake research on veterinary medicine
- Stable employer
- Attractive campus
- Opportunities for further training, both personal and in connection with your career
- Preventive and medical health care
- Diversity- and family-friendly culture
- Childcare facilities, both in term time and during holidays
- Many attractive fringe benefits
- Staff events

Minimum salary

The minimum salaries at universities are governed by a collective bargaining agreement. At the level given above, the minimum salary amounts to EUR 3,277.30 net per month (based on full-time employment).

Applications

Please submit applications quoting the **reference number 2023/0253** via e-mail to bewerbungen@vetmeduni.ac.at. Please do not forget to include the reference number or we shall be unable to relate your application to the correct vacancy announcement.

The Vetmeduni Vienna is attempting to increase the proportion of female staff, particularly in senior positions, and in accordance with § 41 of the 2002 Universities Act it is striving to attain a balanced representation of men and women, especially on its scientific staff. Applications from qualified women are thus particularly welcomed. If women are underrepresented (below 50%), female applicants who are as well qualified as the best qualified male applicants will be given preference, provided that there are no strong reasons for favouring a particular male candidate.

Applicants have no entitlement to reimbursement of any travel or accommodation costs they may incur as a result of the application procedure.

The Vetmeduni Vienna is proud to have been awarded the certificate "*hochschuleundfamilie*" (career and family). We should thus be especially pleased to receive applications from people with families. Applications from persons with disabilities are similarly welcome.

Translations into other languages are solely for information purposes. The version advertised in the University Bulletin (Mitteilungsblatt) is the only one that is legally binding.

Contact /Further Information

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