

**Research Assistant / Doctoral candidate (m/f/d)
at the Institute of Flight Systems at the Chair of Aeronautical Engineering
of the Faculty of Aerospace Engineering
on the topic**

“Artificial intelligence for sensor applications on drones“

(pay group 13 TVöD)

at the earliest possible date on a full-time or part-time basis for a limited period of up to 5 years.

The Chair of Aeronautical Engineering at the Department of Aerospace Engineering works in the field of automation of manned and unmanned aircraft. In particular, we investigate capabilities for sensor-based perception of the aircraft environment.

In current projects we are investigating

In collaboration with industrial and academic partners, we develop innovative mission technologies for unmanned aerial systems. To this end, we develop and test such technologies in simulation environments and on flying drone systems in an operational environment. This includes, for example

- sensor systems for hazard detection and collision avoidance (sense and avoid),
- methods for the highly automated use of electro-optical and hyperspectral sensor units for searching, detecting and tracking objects,
- methods of artificial intelligence to improve the use of sensors,
- approaches for the combined use of different sensor systems (multi-sensor fusion) and the co-operation of several unmanned platforms (teaming, swarming).

Your tasks

- research on the current use of airborne sensor technology
- development of innovative methods of automated sensor use from concept to functional prototype
- participation in the development of an open and expandable software architecture for the test environments and experimental systems
- expansion of the existing simulation environment for your research content
- carrying out flight tests with manned and unmanned flight test vehicles

Qualification Requirements:

- a completed, scientific university education (Master/Diploma) in
 - Electrical engineering or computer science with a focus on e.g. sensor systems, robotics or computer vision,
 - Aerospace engineering with a specialization e.g. in flight guidance/simulation,
 - or another comparable engineering and mathematical/scientific degree programme.
- sound programming skills, e.g. in C++ or Python, and a willingness to expand your knowledge to include other languages

We expect

- experience with deep learning approaches such as object recognition and semantic segmentation
- experience with flight control systems such as Pixhawk 4 an advantage
- knowledge of Linux and frameworks such as ROS an advantage
- interest in experimenting with small UAVs and multicopters
- that you enjoy independent, scientific work and the ability to share your own ideas with a team of dedicated colleagues

We offer

- an active promotion of your scientific development and the opportunity to do a doctorate in an optimal research and supervisory environment. Outstanding graduates of relevant degree programmes at universities of applied sciences are strongly encouraged to apply.
- a pleasant working atmosphere in an internationally orientated, dynamic team
- a state-of-the-art IT equipment - flexible working hours
- excellent networking opportunities
- a campus university with a very good infrastructure, in-house crèche and kindergarten (parents' initiative), a family service centre with advice and support for university members on how to better combine family, care and work, as well as excellent sports facilities
- opportunities for further training and certification in higher education didactics
- classification in pay group 13 takes place in accordance with § 12 TVöD with regard to the actual activities to be carried out and the fulfilment of personal and collective agreement requirements.
- mobile working / offer of teleworking possible by arrangement.

Employment can also be part-time if desired. The University of the Bundeswehr Munich aims to increase the proportion of female scientists and employees; applications from women are expressly welcomed. Persons with disabilities will be given special consideration if equally qualified.

Have we raised your interest?

Please send your complete application (cover letter, CV, references, certificates) as soon as possible by **March 8th 2024** at the latest to:

Univ.-Prof. Dr.-Ing. Peter Stütz
Professur für Luftfahrttechnik (LRT 13)
Universität der Bundeswehr München
85577 Neubiberg
or via email to peter.stuetz@unibw.de

By submitting your application, you consent to your personal data being stored, processed and forwarded to the departments involved in the application process for the purposes of the application. You can find more information on data protection under the following link: [Privacy Policy](#).

We are looking forward to your application!