Research Associate at the Department of Aerospace Engineering, Institute of Flight Systems, on the topic "Using AI to Proactively Conserve Biodiversity"

(Salary according to "E-13 TVöD")

is looking for a full-time research associate (39 hours/week) on the research project CHIP-GT (with the possibility of obtaining a PhD).

The research project **CHIP-GT** is a German-French **(DFG-ANR)** collaboration.

The objectives of CHIP-GT are:

- Applying techniques designed for **noncooperative stochastic games** to determine strategies to be adopted by the autonomous agents;
- Consideration of system dynamics by applying methods meant for **planning and acting;**
- Coping with **multiple optimization criteria;**
- Using **Reinforcement Learning (RL)** for a more flexible deployment;
- Illustration of the applicability and usability with use cases of **Green Security Games (GSG),** which are framework for fighting illegal poaching in conservation areas.

The Research Group **"Applied AI for Dynamic Systems"** of the Institute of Flight Systems is part of the **CHIP-GT** and will host a research associate working on the topic. The research associate will benefit from sufficient academic advice, and will be supervised primarily by **Jun.-Prof. Dr.-Ing. Jane Jean Kiam (University of the Bundeswehr Munich, France)** and **co-supervised by Dr. Régis Sabbadin (INRAE, France), Prof. Caroline P.C. (ISAE-SUPAERO, France), Dr. Meritxell Vinyals (INRAE, France)** and **Prof. Pascal Bercher (ANU, Australia).**

Your tasks:

- Using **task and motion planning** to plan executable actions for multiple autonomous (non-cooperative) agents
- Considering techniques used for **planning under uncertainty**
- Integrating planning and acting capabilities in the planning framework
- Combining the planning methods and stochastic game methods (another research topic of CHIP-GT hosted by INRAE) in a **single decision-support framework**
- **Validation** of the standalone planning framework, as well as the CHIP-GT framework as a whole using use cases from conservation games

Pre-requisites:

- Above average grades (better than 2.5 in the German grading system) in your Master's studies (or Bac+5 in the French educational system) in Computer Science, Electrical Engineering, Robotics, etc.
- Experience in programming (e.g. Python, C/C++) and in the understanding of algorithms
- Proficiency in German and French (These are not necessary, but are advantageous.)

What else are expected?

- An inclination for teamwork and appreciation of the opportunity to work in an international research group
- Publications of results in conference proceedings and journals, as well as presentations at international conferences
- Enthusiasm in scientific reasoning and discussions with fellow researchers
- **Passion to make a difference in biodiversity**

What we offer:
- Proactive scientific supervision and guidance to enable the completion of your PhD-thesis out of the research work done within the CHIP-GT project
- The opportunity to work in a young and dynamic research environment
- Modern IT and lab equipment
- Flexible working hours
- Excellent networking opportunities
- A campus university with very good infrastructure, an in-house crèche and kindergarten (parents' initiative), a family service centre with advice and support for university members to help them reconcile family, care and work, as well as attractive sports and leisure facilities
- Monthly salary according to TVöD E13 (if the conditions of paragraph § 12 TVöD on the work tasks are fulfilled)
- Mobile working / teleworking is possible to a limited extent after consultation with the project management.

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 explicitly welcomed. Persons with disabilities will be given special consideration if equally qualified.

If you are interested to take up the challenge…

Then send us your applications (Motivation letter, CV, Certificates) in PDF-format (max. 10 MB) by E-Mail **as soon as possible** with the subject "**DFG Research Associate Position**" to:

fmff.lrt@unibw.de
Jun.-Prof. Dr.-Ing. Jane Jean Kiam
Institut für Flugsysteme (LRT 13)
Universität der Bundeswehr München
85577 Neubiberg

Upon submitting your application, you agree that your personal data may be 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: https://www.unibw.de/home/footer/datenschutzerklaerung

We are looking forward to your application!