



Linder Höhe
D-51147 Köln
Telephone: +49 (0)2203 601-0
Internet: <https://www.dlr.de>

Kennedyallee 50
D-53175 Bonn
Telephone: +49 (0)228 882-0
E-mail: dlr-daad-program@daad.de
Internet: <https://www.daad.de/dlr>

DLR – DAAD Fellowships

Fellowship No. 631

Research Area :	Security
Research Topic:	Transfer Learning for Variable Underwater Sensor Setups
DLR Institute:	Institute for the Protection of Maritime Infrastructures (IMI)
Location:	Bremerhaven, Germany
Position:	Doctoral Fellow
Openings:	1
Job Specification:	<p>The safety and security of critical infrastructures is an essential foundation for the economic prosperity and stability of governments and societies. The Institute for the Protection of Maritime Infrastructures focuses on this challenge and develops new concepts, approaches and technologies that may be used to analyse and enhance the safety and security of maritime infrastructures regarding people, technologies and systems.</p> <p>The Situational Awareness and Cybersecurity Group at the Department of Maritime Security Technologies develops methods for processing and handling of data for novel situational awareness concepts, with a strong focus on machine learning technologies to enable operators to handle large amounts of incoming sensor data.</p> <p>Join our interdisciplinary research team and develop next-generation security technologies with us! This fellowship focuses on the core question of portability of deep learning algorithms for the processing of underwater sensor data. While deep learning algorithms produce impressive results, they require very large training data sets, which is an issue for fields that cannot easily create vast amounts of data or often alter sensors, such as underwater applications. In this position, you will</p> <ul style="list-style-type: none">• focus predominantly on sonar data sets to analyse how various state-of-the-art machine learning and data processing methods behave when the training data differs from the test data, e.g. after sensor parameters have been altered or sensors were replaced,

- join our team of scientists in their ongoing task of selecting, analysing and implementing current approaches and methods from the scientific machine learning and deep learning communities,
- plan and execute exciting data gathering campaigns in maritime environments,
- compare algorithms concerning the impact of altered input data parameters and
- publish your research at international conferences and in international journals.

The Institute for the Protection of Maritime Infrastructures has committed to principles of open source and open data, allowing results of our research to be published openly when possible.

Required Qualification:

- Master's degree or Diploma in Computer Science, Data Science, Mathematics, Natural Sciences or similar classes,
- Excellent knowledge of modern programming paradigms, especially object-oriented and functional languages, such as C++, Python, Java, Scala, Haskell and/or Rust,
- Desire to learn new programming skills and techniques,
- Experience in the application and implementation of Deep Learning approaches,
- Proficiency in the English language both written and spoken,
- Analytical and creative thinking for solving complex problems,
- Team-minded, communicative and cooperative
- Enjoying interdisciplinary work.

Advantageous Skills:

- Knowledge of Linux, Windows, Latex, Office,
- Version control using git,
- Experience in research projects with partners from industry and academia,
- Experience in maritime projects and/or with maritime sensors,
- Proficiency in the German language both written and spoken,
- Experience in managing larger data sets,
- Published research papers in topics relevant for this position
- Strong knowledge in algorithms and data structures.

English competence: See requirements on www.daad.de/dlr

Earliest Start Date: As soon as possible

Application Deadline: Until position filled

Further Information: <http://www.dlr.de>
<http://www.daad.de/dlr>

More information may be obtained by contacting:

Dr.-Ing. Jannis Stoppe (Jannis.Stoppe@dlr.de)

Thank you for your attention!
 We look forward to receiving your application!