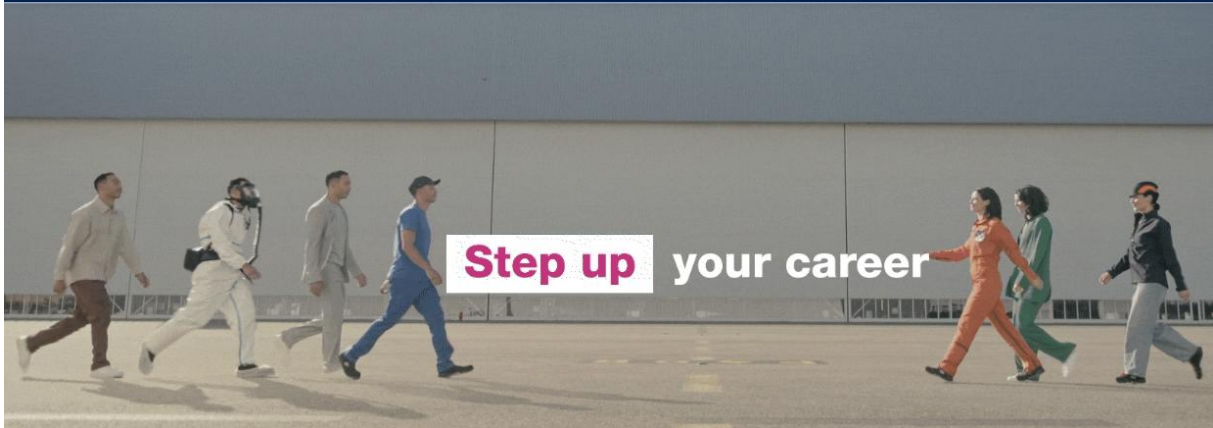




Master Thesis (d/f/m) within the field of Situational Awareness

Job description

In order to support Airbus Helicopters, we are looking for a Masterand in the field of "Situational Awareness", title of thesis ***"Development of a human-machine interface for controlling an advanced autopilot function for automatic takeoff and landing systems"*** (d/f/m)

You are looking for a master thesis and want to get to know the work of a job title? Then apply now! We look forward to you supporting us in the Situational Awareness & Mission Management Team as a Masterand (d/f/m)!

Location: Donauwörth

Start: As soon as possible

Duration: 6 months

Your location

At our Donauwörth site, located on the banks of the river Danube, we develop helicopters from the initial idea to the airworthy product. Watch them take off and touch down on our own on-site test airfield.

Role

During your thesis you will work together with System Engineers in close connection to self-funded and public-funded helicopter research and technology (R&T) projects. The goal of your thesis will be the evaluation of current state-of-the-art technology and how it will be applied in the scope of the department. The concrete definition of the thesis will be defined in close cooperation with the research advisor and is dependent on your personal interests and your academic curriculum.

Abstract

This thesis is created in order to support the conduction of a long term, German funded research project for autonomous takeoff and landing of helicopters in unprepared areas. A key aspect in this thesis is to contribute to this project with an implementation of an Head-Down Human-Machine-Interface (HMI) for use in a Helicopter Cockpit. This HMI is based on requirements derived from the evaluation of the helicopter crews' needs during an automatic approach in an unprepared landing area.

Beyond the development of this HMI application, the system shall make use of state-of-the-art simulation systems and a synthetic test environment in our flight simulator. The simulation environment shall be used during the project progress as a pre-flight test environment with the possibility to integrate software systems and algorithms provided by the project partners. The research impact of the thesis will be to provide an answer to how emerging technologies in the field of flight guidance and simulation can be integrated into the workflow to generate new products in the aeronautic industry that faces increasing workload in terms of regulation and certification requested by authorities such as EASA.

Your benefits

- Attractive salary and work-life balance with an 35-hour week (flexitime).
- Mobile working after agreement with the department.
- Traveling overseas or within Germany (team events) is possible after consultation and agreement from the department.
- International environment with the opportunity to network globally.
- Work with modern/diversified technologies.
- At Airbus, we see you as a valuable team member and you are not hired to brew coffee, instead you are in close contact with the interfaces and are part of our weekly team meetings.
- Opportunity to participate in the Generation Airbus Community to expand your own network.

Your tasks and responsibilities

The following tasks are activities that could be performed during the thesis. The final definition of tasks will be performed during the interview and the first weeks as part of the onboarding process.

- Review the Concept of Operations (CONOPS) that are used as the major input for the whole project scope.
- Review of operational requirements for automatic take-off and landing in unprepared areas.
- Development of an HMI for use inside a helicopter cockpit with rapid prototype methods in R&T projects.
- Interface the software bricks from our project partners to be used for the trajectory planning during the first and last flight phase before landing/touchdown/takeoff/liftoff.
- Provide simulation data for synthetic tests of the trajectory planning system (flight data, obstacles, terrain, ...).

These tasks could be extended by the following:

- Evaluation of state-of-the-art text generation algorithms for requirement capturing (e.g. prompted AI systems).
- Evaluation of state-of-the-art system engineering software (e.g. CAMEO) for research projects within the Airbus perimeter.
- Optimization of Ground Truth Data generation for improvement of the test capabilities in R&T Projects (this also involves the analysis of state-of-the-art toolboxes in the fields of Artificial Intelligence, Computer Vision and Computer Graphics).

Desired skills and qualifications

- Enrolled full-time student (d/f/m) in the area of computer science, aeronautical or mechanical engineering or an equivalent field of study.
- Experience in the fields of Software Engineering, Requirements Engineering and Control Engineering is desirable.
- First experience in the fields of Game Development, 3D Computer Graphics, User-centered Design/HMI or Artificial Intelligence Systems is desirable.
- Experience in flight operations is a plus.
- Fluent in English.

Please upload the following documents:

cover letter, CV, relevant transcripts, enrollment certificate.

<https://ag.wd3.myworkdayjobs.com/Airbus/job/Donauwrth/Master-Thesis--im-Bereich--Entwicklung-betrieblicher-Anforderungen-und-Systemspezifikationen-fr-eine-Autopilot-Implementierung-fr-automatische-Start-und-Landesysteme--d-m-w-JR10237668>

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Unternehmen: AIRBUS HELICOPTERS DEUTSCHLAND GmbH

Vertragsart: Abschlussarbeit

Erfahrungsniveau: Student

Tätigkeitsfamilie: Nachrichtentechnik & Datenverarbeitung <JF-EN-EB>

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Bei Airbus unterstützen wir Dich dabei, einfacher und flexibler zu arbeiten, sich zu vernetzen und zusammenzuarbeiten. Wo immer möglich, fördern wir flexible Arbeitsregelungen, um innovatives Denken und Arbeiten zu stärken.

Über uns

Airbus ist Pionier einer nachhaltigen Luft- und Raumfahrt für eine sichere und vereinte Welt. Das Unternehmen arbeitet ständig an Innovationen für effiziente und technologisch fortschrittliche Lösungen in den Bereichen Luft- und Raumfahrt, Verteidigung sowie vernetzte Dienstleistungen. Airbus bietet moderne und treibstoffeffiziente Verkehrsflugzeuge sowie dazugehörige Dienstleistungen an. Airbus ist auch führend in Europa im Bereich Verteidigung und Sicherheit und eines der größten Raumfahrtunternehmen der Welt. Im Bereich Hubschrauber stellt Airbus die weltweit effizientesten Lösungen und Dienstleistungen für zivile und militärische Hubschrauber bereit.