Post-Doctoral Researcher in Robot System Design for High Voltage Powerline Maintenance
University of Southern Denmark

Job Title	Post-Doctoral Researcher in Robot System Design for High Voltage Powerline Maintenance
Department	The section of Digital and High-Frequency Electronics at the Institute of Mechanical and Electric https://www.sdu.dk/en/forskning/sdu-digital-and-high-frequency-electronics
Institution	University of Southern Denmark Odense, , Denmark
Date Posted	Aug. 18, 2025
Application Deadline	September 2025
Position Start Date	Nov. 1, 2025
Job Categories	Post-Doc
Academic Field(s)	Robotics Electrical and/or Electronics Engineering - Other
Job Website	https://fa-eosd-saasfaprod1.fa.ocs.oraclecloud.com/hcmUI/CandidateExperience/da/sites/CX_1001/job/3100?l
Apply Online Here	https://fa-eosd-saasfaprod1.fa.ocs.oraclecloud.com/hcmUI/CandidateExperience/da/sites/CX_1001/job/3100?l
Apply By Email	

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Job Description

The section of Digital and High-Frequency Electronics at the Institute of Mechanical and Electrical Engineering invites applications for one or more positions of Postdoctoral Researcher in Robotic System Design for Autonomous Task Manipulation for Repairing High-Voltage Lines. The starting date is November 2025 or as soon as possible thereafter.

What we offer

The role involves conducting research into innovative electromechanical robotic systems integrated with advanced sensing technologies, enabling the autonomous detection, interaction with, and replacement of small items (less than 10 kg). The position emphasizes system design and development for a variety of robotic applications, particularly those aligned with the section's core focus on high-voltage line inspection and maintenance.

This work supports SDU Digital and High-Frequency Electronics' internationally recognized leadership in advanced robotic technologies for infrastructure inspection and maintenance. Special attention will be given to developing robust electromechanical, sensing, and control solutions capable of operating safely in electrically harsh environments, as part of the Robots4Green EUDP project.

The research will bridge both established and emerging technical expertise within the section, encompassing areas such as FPGA and neuromorphic computing, Edge AI, machine learning, power electronics, and self-recharging technologies.

Your role will primarily focus on research and support teaching involving course planning and the supervision of BSc and master students in Electronics and Robotics. You will also collaborate with top researchers in robotics as well as digital and high-frequency domains, leading research to address global societal challenges. You are also expected to publish your research in high-impact journals and leading conferences and actively contribute to funding applications to support and expand the research area.

What we expect

- The applicant must hold a doctoral degree (PhD) in electronics, robotics, mechatronics, electrical engineering, embedded electronics, or a related subject area.
- The applicant is expected to have relevant research and teaching experiences that match the position's content and responsibilities.

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- The applicant is expected to have expertise in the design and optimization of electrical and mechanical components, including actuator selection and control, CAD workflows, prototyping (e.g., CNC machining, laser cutting), system integration, experimental design, and both laboratory and real-world testing and validation.

Workplace description
The section focuses on conducting research in digital and high-frequency electronics, embedded systems, control, and communication, utilizing cutting-edge reconfigurable computing and sensors. The aim is to develop next-generation electronics and computing solutions that solve technology-related challenges in fields such as autonomous robots, drones, IoT, smart grid, and healthcare.

The section is a vital component of our educational programs in Electrical Engineering in Odense, offering Bachelor's and Master of Science degrees in Electronics Engineering. Currently, the section focuses on three research fields: 1) Drones for Infrastructure Inspections and Interactions 2) Real-time processing, and 3) optimized power electronics. The section currently has 15 academics, including professors, PhD students, and engineers, to support research, industrial collaboration, and educational activities, and is growing steadily.

The SDU campus in Odense contains five faculties and soon a large university hospital, creating a great concentration of academics and students, facilitating interdisciplinary research and a rich student life. The city of Odense is culturally rich, surrounded by a vibrant and growing robotics community, and highly livable with a green-banked meandering river cutting through the center, and attractive residential areas.

For further information about the position, please contact the Head of Digital and High-frequency Electronics Section, Professor Emad Samuel Malki Ebeid, e-mail: esme@sdu.dk.

If you experience technical problems, please contact hcm-support@sdu.dk.

Application procedure

Applicants are advised to read the SDU information on how to apply.

Assessment of the candidates is based on the application material, and an application must include:

- Motivated application.
- Curriculum Vitae.
- Master's and PhD degree certificates or equivalent (copy of original/official English translation).
- Complete list of publications.

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- Publications most relevant to the position.
- Summary and documentation of experience in teaching, if relevant to the position.
- A research statement may be included.
- References/reference letters may also be included.
- A statement/documentation of other qualifications relevant to the position may also be included.

UPLOAD GUIDE: Motivated application shall be uploaded as ‘Cover letter’ (max. 5 MB), Curriculum Vitae shall be uploaded as ‘Resume’ (max 5 MB). All other documents shall be uploaded as ‘Miscellaneous documents’ (max 10 files of max 50 MB per file).

All documents must be in English and PDF format. CPR number (civil registration no.) must be crossed out. All PDF-files must be unlocked and allow binding and may not be password protected.

The application deadline is September 15, 2025, at 11.59 PM/23.59 (CET/CEST)

Assessment and selection process

Applications will be assessed by an assessment committee. Shortlisting may be applied, and only shortlisted candidates will receive a written assessment. Read about shortlisting at SDU. Interviews and tests may be part of the overall evaluation.

Read about the Assessment and selection process.

Conditions of employment

Appointment as postdoc is temporary for an initial 2-year period, and extension may be possible depending on available funding.

Employment as a postdoc requires scientific qualifications at PhD level at the time of employment. Employment will be in accordance with the collective agreement between the Ministry of Finance and the Danish Confederation of Professional Associations for academics in the state with the associated circular on the protocol for the job structure for academic staff at Danish universities and the provisions for postdoc as described herein. Further information on salary and taxation. The person employed in the position may, based on a specific individual managerial evaluation, be exempted from time registration, also known as a “self-organizer”.

The University of Southern Denmark wishes our staff to reflect the surrounding community and therefore encourages everyone, regardless of personal background, to apply for the position. SDU conducts research in critical technologies, which, due to the risk of unwanted knowledge transfer, are

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subject to a number of security measures. Therefore, based on information from open sources, background checks may be conducted on candidates for the position.

Further information for international applicants about entering and working in Denmark. You may also visit WorkinDenmark for additional information.

Further information about The Faculty of Engineering.

About Us

The University of Southern Denmark was established to create value for and with society. Whether our contributions come in the form of excellent research, innovative solutions, education or learning, we must make a positive difference to society and contribute to a sustainable future. We do this by cultivating talents and creating the best environments for research and learning. It is therefore crucial that SDU retains, develops and recruits talent. At the same time, we need to ensure consistently high quality in all our activities – and we can only do that with the right people. The University's researchers, lecturers, students, managers and technical/administrative staff are the foundation of our success.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Emad Samuel Malki Ebeid
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