



The Research Unit of Remote Sensing of the Department of Geodesy and Geoinformation of TU Wien is seeking a motivated

project assistant in microwave remote sensing (any gender) on the topic of

SAR Data Scientist

Soil and vegetation data with a high spatiotemporal resolution are crucial for the monitoring of droughts, floods, agricultural areas and ecosystems under pressure. Recent advances in the capability of spaceborne radar satellites, particularly from the Copernicus Sentinel-1 series, provide the opportunity to retrieve land surface variables at 20 m resolution worldwide. However, working with such large data volumes requires optimized workflows to take full benefit from high performance computing capabilities. Furthermore, novel machine learning techniques are needed for exploring the data and building robust models to retrieve the required information.

The Remote Sensing unit of TU Wien is at the forefront of microwave remote sensing of land surface variables. It has developed scientific algorithms that are the basis for soil moisture and flood monitoring services operated by the European Copernicus Programme and EUMETSAT. The unit consists of ~15 people in total, including PhD's, Post-Doc's and senior scientists, and is led by Prof. Dr. Wolfgang Wagner.

To support the research work of our team, we are looking for a Project Assistant (PhD or PostDoc) with a background in data science and/or remote sensing. Strong programming skills and experience with working with big data in high performance computing environments is desirable. The selected candidate will be responsible for improving scientific workflows and developing machine learning models for Sentinel-1 land monitoring applications. The methods and models shall be applied from continental to global scales. Therefore, the candidate will work on the high performance computing facilities at TU Wien and the EODC Earth Observation Data Centre.

Your responsibilities:

- Improving and developing scientific algorithms for Sentinel-1
- Contribution in software development using object-oriented programming language
- Technical assistance towards algorithmic performance optimisation, continuous integration, and software maintenance
- Prototyping, implementing, and testing of processing chains and generation of value-added products
- Writing scientific journal papers, technical documents and project reports

Your skills

- Master degree or PhD in data science, remote sensing, earth sciences, information sciences, geodesy, geoinformation sciences, or similar
- Experience with machine learning and remote sensing

- Excellent programming skills (preferably Python)
- Strong analytical and technical skills and problem-solving capability
- Good written and spoken communication skills in English

We Offer

- The opportunity to work in an innovative, dynamic and successful team
- A stimulating and friendly working environment at the department
- State-of-the-art IT and support staff
- Possibility to enroll in the PhD program of TU Wien and further develop and learn
- Freedom to discuss and implement your own ideas
- Flexible working hours
- Workplace close to city centre, metro and main train station and ample outdoor opportunities in the vicinity of Vienna

The salary for this position is based on the Austrian regulations for university staff. The monthly minimum gross salary ranges between € 1.190,10 (BSc level) for a 20 h/week employment and € 3.277,30 (MSc level) for a 40h/week employment. The monthly salary is paid 14 times per year.

If this job opportunity fits your career development plans, we are looking forward to receiving your application in English (cover letter, CV, relevant publications and references) and in one single PDF file via e-mail with the subject '**Sentinel-1 Data Scientist**' to rs-sek@geo.tuwien.ac.at

Candidate selection will start on **December 4th, 2023** and will continue until a suitable candidate is found. TU Wien will not refund any cost occurred in the course of an application.

Prof. Dr. Wolfgang Wagner
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