Job posting

Type of position
☒ scientific
☐ administrative

Target group
☒ graduates
☐ post docs
☐ other

Title
Research Assistant in the Field of 1-bit 3D Imaging

Institution
The position is located at the School of Electrical, Information and Media Engineering, Institute for High Frequency & Communication Technology, of the University of Wuppertal

Position
This position is to be filled for the period March 1, 2024 until February 28, 2027.
The position is to be filled with 100% of the tariff working hours (Part-time is possible, please state when applying whether you would also be interested in a part-time job)
Salary: E 13 TV-L

This is a qualification position within the meaning of the Science Time Contract Act (Wissenschaftszeitvertragsgesetz – WissZeitVG), which can be filled to promote the following scientific or artistic qualification: Acquisition of professional experience in the implementation of the DFG research project "1-Bit 3-Dimensional Imaging (1B3D)".
The duration of the employment contract shall be appropriate to the scientific qualification sought.

Responsibilities
- collaboration in the DFG research project "1-Bit 3-Dimensional Imaging (1B3D)"
- further development of existing techniques for 1-bit 3D imaging based on the Time-of-Flight principle and exploiting noise-shaping methods
- development and evaluation of enhanced methods for retrieving depth (distance) from the corresponding streams of 1-bit data
- extension of the aforementioned methods and evaluation procedures to the case of multiple observed depths per pixel (i.e., the multi-path effect)
- development of autocalibration routines and other necessary methods to handle hardware mismatch and hardware limitations, e.g., in terms of dynamic range and resolution
- testing and validation of the developed methods in real 1-bit ToF hardware to be developed within the same project at the Center for Sensor Systems (ZESS) of the University of Siegen
- synergistic interaction and efficient team work with the other researchers of the 1B3D project and with other group members
- the applicant should not only independently carry out the respective research project, but also participate in the organization of project workshops and the production of research reports and scientific publications

Requirements

- scientific university degree (Master or comparable or superior qualification) in Computer Science, Communications Engineering, Electrical Engineering or comparable
- outstanding grades over the academic vita
- very good knowledge of sensor signal processing (e.g., time-frequency analysis, quantization) and its underlying mathematical foundations, additional knowledge of 3D sensing technologies and their principles of operation is highly desired
- proficiency in MATLAB, Python, or C++, additional knowledge in FPGA programming is an advantage
- genuine interest in interdisciplinary work
- team work capabilities, as well as good communication and organization skills
- very good knowledge of English (C1)

Application procedure (deadline etc.)

Dr.-Ing. habil. Miguel Heredia Conde will answer your questions about the position (herediaconde@uni-wuppertal.de).

Reference code: 23403

Applications including all relevant credentials (motivation letter, CV, proof of successful graduation, job references) should be addressed to Dr.-Ing. habil. Miguel Heredia Conde and solely submitted via the online portal of the University of Wuppertal: https://stellenausschreibungen.uni-wuppertal.de. Kindly note, that incomplete applications will not be considered.

The University of Wuppertal is an equal opportunity employer. Applications from persons of any gender are highly welcome. In accordance with the Gender Equality Act of North Rhine-Westphalia women will be given preferential consideration unless there are compelling reasons in favour of an applicant who is not female. The same applies to applications from disabled persons, who will be given preference in the case of equal suitability.

Application deadline: 2024-01-15

Contact

Dr.-Ing. habil. Miguel Heredia Conde
(herediaconde@uni-wuppertal.de)