Your Tasks

The advertised vacancy is located within the Neuromorphic Behaving Systems (NBS) Group of the Faculty of Technology and the Cluster of Excellence Cognitive Interaction Technology (CITEC). The position is embedded within the EU Training Network (ITN) “NeuTouch”. Successful candidates (so-called Early Stage Researchers (ESRs)) will contribute to NeuTouch’s aim of improving artificial tactile perception in robots and prostheses, by understanding how to best extract, represent and exploit tactile information at system level. ESRs (NBS group) will contribute to the development of embedded neuromorphic tactile sensing and processing, leveraging on recent advancements in the understanding of the neural code for tactile sensing and behaviour. The position advertised here can be filled with a doctoral student.

Tasks:
- simulation of neural networks for modeling tactile receptive fields; computer simulations, design and characterization of neuromorphic circuits in analog VLSI design; integration of neuromorphic hardware with tactile sensor and design of neuromorphic interfaces to actuators;
- publication of project results and presentations at national and international conferences;
- participation in NeuTouch activities (e.g. summer school, secondments, etc.)
- supervision of related master or bachelor theses as needed.

An important part of ITNs are secondments to project partners, both in research and industry. This provides the opportunity to gain deeper insight into applied methods and a broader view onto applications.

Your Profile

We expect:
- university degree in computer sciences, engineering, physics, mathematics, neuroscience, or related disciplines;
- fluent written and oral communication skills in English;
- experience in analog VLSI design;
- good programming knowledge and proficiency in the development of spike-based network models in Python or C++ and knowledge of the relevant frameworks, e.g. Brian2, SpiNNaker, p4NN.
- very good knowledge in the fields of neural networks and computational neuroscience;
- self-driven, goal-oriented and systematic approach to new topics;
- perfect written and oral communication skills in German;
- very good knowledge in the fields of neural networks and computational neuroscience;
- high degree of commitment and initiative as well as being able to work closely and communicate effectively with a diverse group of scientists and technical staff;
- interest in the design and development of analog VLSI circuits and bio-inspired systems for information processing;
- willingness to participate in international and interdisciplinary collaborations.

Due to ITN’s aim to strengthen international cooperation, at the time of recruitment by the university, researchers must not have resided or carried out their main activity (work, studies, etc.) in Germany for more than 12 months during the 3 years immediately before the reference date. Compulsory national service and/ or short stays such as holidays are not taken into account. In addition, the applicant’s scientific degree must not be older than four years at the time of recruitment.

Preferable qualifications:
- experience with neuromorphic hardware;
- knowledge of Linux-based IT environments;
- experiences of event-based information processing;
- very good knowledge in the fields of neural networks and computational neuroscience;
- high degree of commitment and initiative as well as being able to work closely and communicate effectively with a diverse group of scientists and technical staff;
- interest in the design and development of analog VLSI circuits and bio-inspired systems for information processing;
- willingness to participate in international and interdisciplinary collaborations.

Remuneration

Salary will be paid according to Remuneration level 13 of the Wage Agreement for Public Service in the Federal States (TV-L). As stipulated in § 2 (1) of the WissZeitVG (fixed-term employment), the contract will end after one year with the option for two years extension (PhD). In accordance with the provisions of the WissZeitVG and the Agreement on Satisfactory Conditions of Employment, the length of contract may differ in individual cases. The employment is designed to encourage further academic qualification. In principle, these full-time position may be changed into a part-time position, as long as this does not conflict with official needs. The position advertised here can be filled with a doctoral student.

Bielefeld University is particularly committed to the career development of its employees. It offers attractive internal and external training and further training programmes. Employees have the opportunity to use a variety of health, counselling, and prevention programmes. Bielefeld University places great importance on a work-family balance for all its employees.

Application Procedure

For full consideration, your application should be received via either post or e-mail (a single PDF) document sent to

name@uni-bielefeld.de

due on

9th of May, 2019

Applications must be in English and include the following documents (maximum two pages for points 1-4): 1. cover letter; 2. meaningful description of your research area (topics and methods); 3. research statement covering personal research interests, planned research goals and how they fit into the research carried out in the NBS group (ESR15); 4. CV outlining prior education, research experience, skills and publications; 5. two letters of reference; 6. a meaningful description of your related master or bachelor thesis.

Please mark your application with the identification code wiss19072. Please do not use application portfolios and send only photocopies of original documents because all application materials will be destroyed at the end of the selection procedure. Further information on Bielefeld University can be found on our homepage at

www.uni-bielefeld.de

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