

PhD Thesis Position (ESR 2, Hannover, m/w/d)

Research Field: Machine Learning, Medical Image Processing, Data Science, Neurosciences

PhD Supervision: Prof. Prof. h.c. Dr. med. Thomas Lenarz

Project Supervision: Samuel John

Application Deadline: March 15th, 2020

Scientific department (laboratory name):

[HörSys GmbH](#), Feodor-Lynen-Str. 35, 30625 Hannover, Germany

HörSys GmbH is a small and highly specialized company in hearing research and translation. In a European funded research project named [Comm4CHILD](#), we process radiologic volume CT data sets with the goal to fit and analyze 3D models for individual patient anatomies of the human inner ear (the cochlear) for patients that received or will receive cochlea implants (CI). These geometric 3D models will be correlated with EEG measurements and with hearing performance to yield new insights.

Doctoral School: Medizinische Hochschule Hannover, Germany

What we offer

- ▶ You will research and develop state of the art algorithms in medical image processing that can help make a difference for the patient care of deaf children as an Early-Stage Researcher (ESR).
- ▶ A three year contract at HörSys GmbH in Hannover, Germany, with excellent followup perspectives at HörSys, partner companies or basically anywhere in the wider hearing and implant industry. The position is a part of the H2020 Marie-Curie Innovative Training Network project (Comm4CHILD) that received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 860755. The contract is coupled to the grant.
- ▶ The funding will cover the 3 years of a full-time PhD (ca. 3171,00€ monthly gross salary including employer and employee deductions and taxes) in Germany, plus 600 € per month as Mobility Allowance and if entitled a Family Allowance of 500 € per month. Ideally the starting date would be between September or October 2020. The ESR will also have access to funds to cover research and training costs.
- ▶ Pursue your doctoral title within the PhD-program Auditory Sciences at the prestigious Medical School Hannover (MHH)
- ▶ A mandatory secondment where you will stay 6 months at [LiU](#) at CAMPUS VALLA LINKOPING in 581 83 Sweden.
- ▶ A nice place at our company offices at medical park Hanover on the extended MHH campus
- ▶ Access to a high density EEG Lab at MHH where you will absolve a 2-month secondment within the project.
- ▶ A personal Apple MacBook Pro, Screen, and iPad for development and study (and private use)

What you bring in

- ▶ You bring image processing knowledge and experience in writing scientific Python code with the PyData stack, i.e. libraries such like numpy, scipy, pandas, scikit-learn. Optimally, you worked with 3D Slicer and/or VTK or with another 3D engine.
- ▶ You can use MatLab (the EEGLab software is already written)
- ▶ You are familiar with software development tools such as git and gitlab/github.
- ▶ You speak fluent English
- ▶ You are an open minded team player
- ▶ You can work self-directed, are curious

What you will do

- ▶ Programming and designing algorithms to analyze radiologic medical images (“CT scans”) and EEG signals (in Python)
- ▶ Interact with researchers and clinicians of MHH
- ▶ Inscribe in the PhD program at MHH
- ▶ Measuring EEGs in animal experiments and/or human subjects
- ▶ Perform data science analyses and reporting to the project coordinator and to the European Commission
- ▶ Write scientific publication and present your work at (inter)national conferences

Eligibility

Candidates must have obtained a degree which formally entitles them to embark on a doctorate, either in the (EU) country in which the degree was obtained or in Germany. The candidate must not have resided or carried out their main activity (e.g. work, studies) in the country where you have been recruited (Germany) for more than 12 months in the 3 years immediately before the recruitment date. This excludes short stays such as holidays. Candidates cannot have been awarded a doctoral degree and/or completed more than four years of full-time equivalent research experience.

Application and Contact

Interested candidates should submit

1. a cover letter describing their background, research experiences, interests, and goals
2. a curriculum vitae
3. at least one letter of recommendation from previous research supervisors
4. a copy of diploma (with the university transcripts)

to hello@hoersys.de (supervisor). Please mention that you are applying to the “DOCTORAL position Comm4CHILD” in the email subject.

If you have further questions, don't hesitate to contact us at hello@hoersys.de first. We are looking forward to your application!