Fraunhofer-Institut für Integrierte Schaltungen

Job-Titel:
AUDIO SIGNAL PROCESSING RESEARCHER*

Job-Beschreibung
WE HAVE AN IMMEDIATE OPENING IN OUR »AUDIO AND MEDIA TECHNOLOGIES« DIVISION OF FRAUNHOFER IIS IN ERLANGEN, GERMANY, FOR A

AUDIO SIGNAL PROCESSING RESEARCHER*

Are you fascinated by audio signal processing and C programming? Are you keen on developing cutting-edge technology for smart assistant devices?

If so, we have the right position for you!
Your primary task consists of developing new audio signal processing algorithms, mainly in the field of microphone processing and speech enhancement. This development typically involves multiple steps: The first step is to gather a good overview of state-of-the-art approaches that could be suitable to solve the given problem. In a second step, the approaches need to be adapted to solve our specific problem, e.g., they need to be adapted to our specific hardware devices or requirements. In many situations, it is necessary to develop our own algorithmic solution from scratch, if no solution exists in the literature. Once a basic algorithm is drafted, e.g., in MATLAB or Python, the algorithm needs to be tested and its practical applicability needs to be verified. This requires to carry out acoustic measurements in the laboratory and/or to conduct acoustic simulations. The evaluation is performed based on objective measures, but it also can involve listening tests. Once the practical applicability is verified, the basic algorithm needs to be transformed into a feature-complete and product-ready algorithm, which includes robustification and fine-tuning, e.g., for specific consumer devices.

Your second main task consists of porting the newly developed MATLAB or Python algorithm into a product-ready and computational efficient C library. If the algorithm was developed by other colleagues, you should understand and verify the algorithm such that algorithmic problems can be spotted and removed while porting the algorithm to C. Once the porting is finished, the implementation needs to be verified in terms of accuracy and complexity.

What you can expect from us
The Fraunhofer IIS offers a diverse and challenging field of work in an international environment, oriented toward state-of-the-art research and technology, with the opportunity for personal and professional development.
Furthermore, we offer work-life balance through flexible working hours and various support programs.

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Schwerbehinderte Menschen werden bei gleicher Eignung bevorzugt eingestellt.
Wir weisen darauf hin, dass die gewählte Berufsbezeichnung auch das dritte Geschlecht miteinbezieht.
Die Fraunhofer-Gesellschaft legt Wert auf eine geschlechtsunabhängige berufliche Gleichstellung.

Fraunhofer is Europe’s largest application-oriented research organization. Our research efforts are geared entirely to people’s needs: health, security, communication, energy and the environment. As a result, the work undertaken by our researchers and developers has a significant impact on people’s lives. We are creative. We shape technology. We design products. We improve methods and techniques. We open up new vistas.

Have we piqued your interest?
Then please apply online – quoting the reference number IIS-2020-AME18.

http://www.iis.fraunhofer.de
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Anforderungsprofil
What we expect from you
- University degree in Computer Science, Electronics, Mathematics, Physics, or similar
- Good audio signal processing knowledge and good mathematical skills
- Experience with algorithmic development
- Very good MATLAB programming skills and good C programming skills
- Very good problem understanding and problem-solving skills
- Experience with acoustic measurements, simulations, and psychoacoustic knowledge
- Enthusiasm to gain knowledge in new audio signal processing fields
- The ability to cope with highly agile projects

**Kontakt**

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**Art der Beschäftigung**  
**Zeitraum der Beschäftigung:** nach Vereinbarung

**Firmenname:** Fraunhofer-Institut für Integrierte Schaltungen  
**Ansprechpartner:** Frau Nina Wörlein  
**Jetzt bewerben:** https://recruiting.fraunhofer.de/Vacancies/50588/Description/2

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