

CAN I COMBINE SCIENCE AND BUSINESS IN A SINGLE JOB?

YES.

We'll show you how at Fraunhofer IIS.

Student Assistant / Master Thesis – Machine Learning Aided Signal Processing in Communication Systems

The »**Broadband and Broadcast**« department is active in the areas of mobile communications, embedded ML/AI, Internet-of-Things and automotive communication systems. We take new concepts and algorithms in the fields of communications and digital signal processing (e.g. machine learning) from theory, implement them and test them in simulations and in prototypes in our labs and in the field.

You are interested in the field of Communication Systems and would like to develop further in the field of signal processing and machine learning?

Then have a look at our offer!

Requirements on latency, bandwidth, and the number of connected users in the network are getting more demanding in every generation of wireless communication. The current state-of-the-art approaches do not yet feasibly meet the theoretical performance bounds in important use cases. Exploring possible alternative signal processing blocks is an open research problem. Within the framework of this position, machine learning-aided short-block single-carrier transmission, including equalization, shall be investigated to reduce the latency while keeping high power and bandwidth efficiency.

What you will do

- You investigate theoretical Machine Learning schemes
- You implement the proposed neural network architectures
- You analyze the simulations and carry them out

What you bring to the table

- You are currently studying communications engineering, communications technology or a comparable course of study
- You have a good understanding of Digital Communication
- You understand neural network models
- Ideally, you have experience with Tensorflow or PyTorch

What you can expect

- **Flexible** working hours
- **Open** and **friendly team work**
- **Varied** tasks with room for **creativity**
- Exciting **seminars** and **events**
- **Networking** with scientists
- **Active contribution** in applied research
- **Interesting** and **innovative** projects

Weekly working hours are determined by agreement. You can start from now on (as a student assistant from **10 to 20** hours a week or as an intern for a period of at least three months). You can reduce your hours before exams and increase them during semester breaks. You can flexibly determine the working days. After your studies, you have the option of working with us full or part time.

We would be happy to offer you the opportunity to write a master's thesis in cooperation with us in the above-mentioned subject area. The thesis will be assigned and carried out in accordance with the rules of your university. For this reason, please discuss the thesis with a professor who can advise you over the course of the project.

We value and promote the diversity of our employees' skills and therefore welcome all applications - regardless of age, gender, nationality, ethnic and social origin, religion, ideology, disability, sexual orientation and identity.

Interested?

Apply [online](#) now (PDF: cover letter, CV, transcripts). We look forward to getting to know you!

Fraunhofer-Institute for Integrated Circuits IIS

www.iis.fraunhofer.de/en

Requisition Number: 61496

Application Deadline: none

Location: Erlangen

