

CAN I COMBINE SCIENCE AND BUSINESS IN A SINGLE JOB?

YES.

We'll show you how at Fraunhofer IIS.

For the **Moving pictures** department in **Erlangen**, the Fraunhofer Institute for Integrated Circuits IIS is currently seeking for a

Student Assistant/Intern (f/m/d) for the Development of Light-Field Algorithms Using Deep Learning

Capturing a scene with a camera array instead of a single camera enables a wide range of possibilities during post-production as not only a single intensity image is acquired but a so-called light-field is recorded. With this light-field, for instance, the scene depth can be estimated, intermediate views necessary for VR applications can be rendered, virtual camera movements can be created, or the depth of field can be changed retrospectively. However, achieving these goals requires computational imaging algorithms to be applied on the captured data.

In recent years, deep learning techniques have developed to be popular and effective tools for many tasks in the field of image and video processing. Especially convolutional neural networks have proven to achieve high image quality in many a different task. Furthermore, generative adversarial networks are applied to various image processing tasks and lead to visually very appealing results.

Your task would be to implement and evaluate novel concepts based on deep learning methods for light-field applications. Therefore, this work might involve – but is not limited to – improving the quality of geometric calibration, disparity estimation, view rendering, or filtering. The overall goal is to generate visually appealing view rendering results.

For more information about our light-field research, please refer to

<https://www.iis.fraunhofer.de/en/ff/amm/for/forschbewegtbildtechn/lichtfeld.html>

Your profile: You ...

- are studying electronic engineering, computer science, information and communication technologies, or a related field
- have experience in programming languages such as Python, MATLAB, or C++
- have experience with deep learning frameworks such as TensorFlow, PyTorch, Caffe, or Theano
- have good knowledge in the area of image and video processing
- are available from now on (as a student assistant: 10-12 hours a week or as an intern: for a period of at least three months)

What you can expect from us

- An interesting **application-oriented field of research** with innovative projects and a **state-of-the-art laboratory environment**
- Extensive **professional support** from **scientific mentors**
- **Flexible hours**, that allow you to balance your studies and on-the-job experience
- An **open and friendly work environment**
- Sufficient opportunity to **improve your own interests and skills**

We can also offer you the opportunity to complete a student thesis in conjunction with our institute in one of the aforementioned fields. 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.

If you have any questions about this opening, please contact:

- Michel Bätz (michel.baetz@iis.fraunhofer.de), phone: +49 (0) 9131 776-5166
- M. Shahzeb Khan Gul (muhammad.gul@iis.fraunhofer.de), phone: +49 (0) 9131 776-5159

Interested?

Please apply for this position using the following link: <https://recruiting.fraunhofer.de/Vacancies/57750/Description/2>.

Applications are possible **in German and English**. Please include a cover letter, your CV and your latest transcripts of records (as PDF) and quote ID number **57750-BT**. Address your application to Nina Wörlein.

Please let us know how you learned about this job opportunity.

Additional information is available on our website: www.iis.fraunhofer.de/en