



## Working Student/Intern for low-light 3D reconstruction

The Fraunhofer-Gesellschaft ([www.fraunhofer.com](http://www.fraunhofer.com)) currently operates 76 institutes and research institutions throughout Germany and is the world's leading applied research organization. Around 32 000 employees work with an annual research budget of 3.4 billion euros.

Our department «[Moving Pictures Technologies](#)» is developing methods to extend Neural Radiance Fields (NeRF) for low-light scenarios. Our goal is to explore advanced techniques for denoising and handling focus blur, enabling neural 3D reconstruction in challenging lighting conditions.

We are seeking a motivated student to develop innovative solutions to improve image quality in low-light environments and implement new features for denoising and blur handling. This topic can also be pursued as a bachelor thesis, providing an opportunity for in-depth research and development.

**You are interested in combining research and practices and would like to develop further in the field of 3D reconstruction?**

**Then have a look at our offer!**

### What you will do

- You build on the existing source code for state-of-the-art 3D reconstruction
- You implement algorithms for denoising and blur handling
- You set up and run experiments on datasets of various low-light scenes
- You evaluate the results using objective quality metrics and document them
- You compare the results for various different lighting conditions and camera settings in terms of processing time, memory consumption and achievable quality

### What you bring to the table

- You are currently studying electronics engineering, computer science, information and communication technologies or a related field
- You have worked with frameworks such as TensorFlow or PyTorch
- You are experienced in the Python programming language
- You have a good knowledge of the area of multi-view image processing
- You possess basic understanding of camera operations and settings, including exposure, focus, ISO, and aperture

### 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
- **Mentoring program** »[josephine@iis.fraunhofer.de](mailto:josephine@iis.fraunhofer.de)« for talented female students

Weekly working hours are determined by agreement. You can start from now on (as a student assistant from **10** up to **20** hours a week). You can reduce your hours before exams and increase them during semester breaks. You can flexibly determine the working days. After your studies, there may be an opportunity to work with us full or part time.

We would be happy to offer you the opportunity to write a bachelor's or 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!**

If you have any questions about this opening, please contact:  
Nico Prappacher ([nico.prappacher@iis.fraunhofer.de](mailto:nico.prappacher@iis.fraunhofer.de))

Fraunhofer-Institute for Integrated Circuits IIS  
[www.iis.fraunhofer.de/en](http://www.iis.fraunhofer.de/en)

Requisition Number: xxxxx

Application Deadline: none

Location: Erlangen

