

CAN I COMBINE SCIENCE AND BUSINESS IN A SINGLE JOB?

YES.

We'll show you how at Fraunhofer IIS.

For the »**Self-Powered Radio Systems**« department in **Nürnberg**, the Fraunhofer Institute for Integrated Circuits IIS is currently seeking a

Student Assistant / Intern

Demonstrator for MIOTY Interference Robustness

The department of »**Self-Powered Radio Systems**« is focused on efficient systems and protocols for wireless data transmission and energy harvesting. One priority is the area of Internet of Things (IoT) and Industrial Internet of Things (IIoT), which led to the development and ongoing improvements of **Mioty**, a new **low-power wide-area network** (LPWAN) technology. Mioty, an ETSI standardised system, is analysed, among other features, with respect to energy efficiency, and compared to other LPWAN technologies, e.g. NB-IoT (3GPP).

Mioty is a miniaturized IoT system developed by Fraunhofer IIS. Key characteristics of Mioty are cost efficiency, very long communication range, very long battery life and high interference robustness. Robustness against interferers can be seen as how many hits by other signals a telegram can take until the content of the message is lost. To demonstrate this feature of Mioty systems a Shoot 'em up game (like Space Invaders) should be implemented. Signals of different IOT systems, e.g. Mioty, LoRa, Sigfox, have to withstand shots from a player. The durability of the signal will be determined based on the communications properties of the different systems. The game will include at least a scoring system and a high score list. Sound effects are optional.

Your tasks

- You have good knowledge with Git, Doxygen documentation, Test with py.test
- You get started with Kivy
- You implement a simple Shoot 'em up game in Kivy
- You adapt a simple game to the interference robustness demonstrator
- You organize an internal trial contest

Your profile

- You are studying electrical/electronic engineering, computer science or game design.
- You have good knowledge with Python
- You are experienced with an object oriented programming language
- You are familiar with digital signal processing and communications (nice to have)

What you can expect from us

- An **open and cooperative** working environment
- Collaboration in interesting and **innovative projects**
- Many opportunities to gain practical experience and attend seminars
- **Flexibility** concerning your working hours

If you have any questions about this opening, please contact wolfram.strauss@iis.fraunhofer.de

Interested?

Please apply for this position using the following link: <https://recruiting.fraunhofer.de/Vacancies/61912/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 **61912-LV**. 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