



## Thesis: Spiking Liquid State Machine for Radar (f/m /div)\*

### Job description

You are close to finishing your studies in electrical engineering, computer science or a similar field and you are looking for an exciting topic for your internship/thesis? Then this might be the perfect task for you! Join our team in Munich and implement your internship/thesis in the area of Spiking Neural Networks (SNNs) for radar. Sounds good? Don't miss the chance and apply now!

In your new role you will:

- Evaluate and implement a **Spiking Liquid State Machine (LSM)** architectures
- Propose and test **LSMs trained on existing Radar datasets**
- Work with spiking simulators (**NEST, snnTorch, LAVA, or another** relevant spiking simulator)
- **Compare** the results out of the **LSMs to conventional ANNs/Other SNNs** architectures
- **Analyze** their **potential** to replace/augment **classical radar processing**
- Document the results by **writing and submitting your master thesis**

### Profile

You are best equipped for this task if you:

- Are currently studying **Electrical Engineering, Computer Science, Physics, Math** or a related field
- Already have a **background** in **Deep Learning** (PyTorch and/or TensorFlow)
- Are familiar with **Python Programming**
- Possess an understanding of **fundamentals** of **Digital Signal Processing**.
- **Ideally** have gained **experience** in **Radar**
- **Helpful but optional:** have experience related to **Spiking Neural Networks**
- Have a **proficient command** of **English**

Please attach the following documents to your application:

- CV in English
- Certificate of enrollment at university
- Latest grades transcript
- High school report

### At a glance

Location:

Job ID: **351999**

Start date: **Aug 01, 2022**

Entry level: **0-1 year**

Type: **Full time**

Contract: **Temporary**

Apply to this position online by following the URL and entering the Job ID in our job search:

Job ID: **351999**

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### Contact

**Silke Jaschik**

Student Attraction Manager



# Why Us

**Part of your life. Part of tomorrow.**

Infineon is a world leader in semiconductor solutions that make life easier, safer, and greener. Our solutions for efficient energy management, smart mobility, and secure, seamless communications link the real and the digital world.

**– Power & Sensor Systems (PSS) drives leading-edge power management, sensing and data transfer capabilities –**

Infineon **PSS** semiconductors play a vital role in enabling intelligent power management, smart sensitivity as well as fast and reliable data processing in an increasingly digitalized world. Our power technologies allow for devices to be smarter, smaller, lighter and more energy-efficient, and our sensors establish the link between the real and digital world. Beyond bridging these two worlds, our smart sensors take the next step and comprehend their surroundings. In the case of radar, detecting the presence or movements of humans using only built-in compute resources, reduces power usage significantly. Join our team if you want to advance the work on our trusted radar sensors and how they make sense of their surroundings.

*\* The term gender in the sense of the General Equal Treatment Act (GETA) or other national legislation refers to the biological assignment to a gender group. At Infineon we are proud to embrace (gender) diversity, including female, male and diverse.*

