



INTERNSHIP OFFER

CZ-2025-100007

Brno, Czech Republic

ON-SITE

INTERNSHIP HOST

Name of Company
Brno University of Technology
Department of Radio electronics

Website
<https://www.urel.fekt.vut.cz/en>

Address of Company
Brno
Czech Republic

Number of Employees
4000

Business or Product
Wireless communications

STUDENT REQUIRED

General Discipline
Telecommunications

Field of Study

Completed Years of Study
4

Language Required
English Good (B1, B2) Or
English Excellent (C1, C2)

Required Qualifications and Skills
Python | MATLAB | Digital Signal
Processing
Student in 5th or 4th year of study
Experience with basic digital signals of
processing methods
Experience with Matlab or Python

Student Status Requirements
required when nominated

Other Requirements/Information

INTERNSHIP OFFER

8 - 12
weeks

15000
CZK
per Month

5000 CZK
per Month

Latest Possible Start Date
04-Aug-2025

Within Months
Jun-2025 - Sep-2025

Company Closed Within
-

Deductions Expected
0

Payment Method
Bank Transfer

Arranged by
IAESTE

Estimated Cost of Living including Lodging
13000 CZK / Month

Working Environment: Research and development

Working Hours / Week: 32.0

Title: Location-aided authentication of wireless transmitters

The aim of the project will be to verify the potential of low-cost software defined radio (SDR) or RFSoc platforms for estimation whether the location of the transmitter has changed or not. One of the possible methods could be the angle of arrival (AoA) estimation. Another approach (and more probably used) relies on suitable machine learning method such as autoencoder. The two channel SDR's such as USRP B210, Adalm Pluto, or AMD RFSoc 4x2 educational kit represent potential candidate SDR's to consider. Some of them probably would require some HW and SW changes (Adalm Pluto, RFSoc).

The student is expected to implement or reuse the selected method in MATLAB or Python, perform the experimental measurements, and then process the recorded data.

Some useful links:

<https://www.mdpi.com/1424-8220/22/17/6547>

<https://github.com/Xilinx/RFSoc-PYNQ>

<https://github.com/Xilinx/RFSoc-MTS>

<https://www.youtube.com/watch?v=phOKv4SgSul>

ADDITIONAL INFORMATION

Please follow the instructions for preparing the nomination documents and the visa process in the attached document. These documents are only for you and your student, please don't include them in your student's nomination.

IAESTE provides accommodation in the "Pod Palackého Vrchem" student dormitory, where interns are housed in shared double rooms with same-sex roommates. If an intern prefers a single room, they are responsible for arranging alternative accommodations independently.

Deadline for Nomination - 15-Mar-2025

Date - 25-Jan-2025

On Behalf of Receiving Country - IAESTE Czech
Republic