# GLOBAL TRAINING PROGRAMME

## FORM 1 APPLICATION FORM: GLOBAL TRAINING PROGRAMME

REFERENCIA: EHU10

| CORPORATIVE INFORMATION | | | |
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| Name of the company | | CSD Labs / eMurmur | |
| Contact Person | | Andreas Reinisch | Email: |
| Location | Country | Austria | |
| | City | Graz | |
| | Address | Nikolaiplatz 4 | |
| Sector | | Medical software / Software engineering / e-learning | |

| PROPOSED INTERNHISP INFORMATION | | |
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| **Number of trainees to host** (in case you want more than 1 trainee, indicate the different departments where they will work) | | **1 . Se ofrecen 3 proyectos para 1 plaza** |
| **Extension time (extra months and salary)** OPTIONAL<br><br>SEE DOCUMENT:<br>*"FORM 2_Global Training 2023 extension preliminary agreement"* | **Extra months** | Si al finalizar los 6 primeros meses la empresa y el becario desean prorrogar la estancia, la empresa ofrece la posibilidad de prorrogar la estancia hasta 6 meses más. |
| | **Monthly payment for extra months** (between 0-1600€/month) | Al finalizar los 6 primeros meses, la empresa ofrece la posibilidad de prorrogar la estancia varios meses con la siguiente mensualidad (a día de hoy):1.600 €/ mes |

| INTERNSHIP/PLACEMENT INFORMATION | |
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| **Department** | **Project 1: Software Development**<br><br>**Project 2: Data Analysis/Signal processing**<br><br>**Project 3: Quality Management** |
| **Description of project/activities** | **Project 1: Software Development**<br>• Depending on your skills and experience, contribute to our software development projects (mobile, web, backend) supervised by our senior engineers<br>  ▪ Contribute to new features<br>  ▪ Maintain existing projects and fix bugs<br>  ▪ Write tests for our existing software components<br><br>**Project 2: Data Analysis/Signal processing**<br>• Depending on your skills and experience, contribute to our data analysis/signal processing projects (heart sound analysis, lung sound analysis) supervised by our senior engineers<br>  ▪ Help labelling existing data<br>  ▪ Improve existing data analysis and signal processing algorithms<br>  ▪ Contribute to tools in our data analysis/signal processing pipelines<br>  ▪ Analyse existing data for patterns<br><br>**Project 3: Regulatory/Quality Management**<br>• Continuously improve our quality management system (US/FDA EU/CE), supervised by our quality management engineers<br>• Contribute to the technical documentation of our medical devices |

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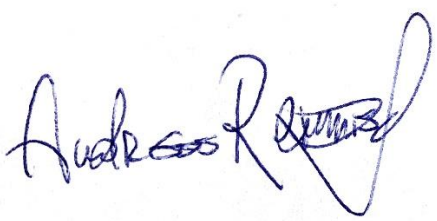
| | • Manage and analyse clinical data<br>Research about regulatory strategies and monitoring regulatory changes |
| **COMPETENCES, SKILLS and EXPERIENCE REQUIREMENTS** | |
| **Requested profile(s) information**<br>(Studies, previous experience, language skills, other skills…) | **Project 1: Software Development**<br>• Background: Computer Science/Software Engineering/Medical Engineering<br>• Solid foundations in software engineering<br>• Optional: knowledge in data analysis/machine learning (Python), iOS/Android development, web app (Typescript/HTML/CSS) development, backend (C#/.NET) development. We operate in many different areas and would employ you wherever your skills match our projects the best.<br>• Language skills: English<br><br>**Project 2: Data Analysis/Signal processing**<br>• Background: Computer Science/Software Engineering/Medical Engineering<br>• Required: Basic knowledge in Python<br>• Optional: experience with numpy, scipy, sklearn<br>• Basic knowledge in data analysis/machine learning<br>• Language skills: English<br><br>**Project 3: Regulatory/Quality Management**<br>• Background: Quality management/Project management/Medical engineering<br>• Basic knowledge in quality management<br>• Very structured and diligent work attitude<br>• Interested in medical topics and diagnostic devices in particular<br>• Optional: medical device regulations: ISO 13485:2016, MDR, 21 CFR part 820<br>• Language skills: Excellent English |
| Other commentaries | |

| COMPANY/INSTITUTION | SIGNATURE | DATE |
|---|---|---|
| REPRESENTATIIVE:<br>Andreas Reinisch |  | 28/04/2023 |

# INFORMATION ABOUT THE COMPANY/INSTITUTION

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| LOGO | CSDlabs eMurmur |
| WEBSITE | www.emurmur.com |
| INFORMATION ABOUT THE CITY AND THE AREA WHERE THE COMPANY/ISTITUTION IS LOCATED<br><br>(General information about SECURITY, ACCOMODATION, PUBLIC TRANSPORT…) | Graz is the second largest city of Austria with 325.000 inhabitants (of which more than 44.000 are students). There are 4 major universities in Graz and a very good public transport system. It is a very safe city, and accommodation is quite cheap (around 250-350 EUR for a room in a shared flat). It is close to Hungary, Slovenia, Italy, and both culturally and scenically a very interesting region.<br>https://en.wikipedia.org/wiki/Graz<br>Our office is in the center of Graz and easily reachable by foot, bike, or public transport. For more information, please contact me at andreas.reinisch@emurmur.com |
| GENERAL INFORMATION ABOUT THE COMPANY/INSTITUTION | We develop products to support medical professionals in auscultation (auscultation = examination with the stethoscope). Our main areas are development and sales of medical software, development of heart sound and lung sound analysis algorithms, performing clinical studies, and development of eLearning tools for students and universities. |
| SIZE OF THE COMPANY (EMPLOYEES) | 10 |
| NUMBER OF PEOPLE AT THE DEPARTMENT WHERE THE TRAINEESHIP WILL TAKE PLAKE | 8 |
| MAIN ACTIVITY OF THE COMPANY/INSTITUTION | We operate in 2 areas:<br>• Research and development of **heart sound analysis algorithms** and **lung sound analysis algorithms.** Development of a digital auscultation platform, incorporating analysis algorithms.<br>• **Development** of **eLearning tools** in heart/lung sounds for<br>  ○ students<br>  ○ universities<br>For more information visit www.emurmur.com |
| A BRIEF EXPLANATION OF MAIN PROJECTS | **eMurmur:** a digital auscultation platform enabling healthcare providers to screen, monitor, diagnose, and consult with greater certainty. eMurmur consists of an Android app, an iOS app, a web portal, and a backend.<br>https://emurmur.com/platform/<br><br>**eMurmur Heart AI**: medical device for heart sound analysis and documentation: the user connects our app on a smartphone to an electronic stethoscope and captures the heart sounds, sends the heart sounds to a server where they are analyzed, the analysis result is returned to the user.<br><br>https://emurmur.com/ai-publications/<br><br>**eMurmur Lung AI**: medical device for lung sound analysis and documentation. Currently |

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| | under development and not released yet.<br><br>**Littmann Learning**: heart/lung murmur training and testing app for self-paced learning; Android- and iOS-based app.<br><br>**Littmann University**: interactive auscultation training platform for instructors and students; Android- and iOS-based app. |
| PREVIOUS COLLABORATION IN INTERNSHIP/TRAINING PROGRAMMES? | Up to now we hosted 10 Basque trainees of the Global Training Programme, all of which extended the programme by the maximum time. Two of them are now employed full-time; one of them is still here in Graz, while the other continues to work for us remotely. We also continued to work with 2 other former trainees for 6 months after the full 12 months of the Global Training Programme on a contractor-basis. |
| OTHER COMMENTARIES | |