IT Internship / Java Development: Implementation of an Artificial Intelligence-Based Segmentation Solution

Implementation of an Artificial Intelligence-Based Segmentation Solution

Telemis is a medical equipment company specialising in PACS/MACS solutions, digital pathology, and Business Intelligence for the healthcare sector. Our products assist healthcare facilities, private practices, and so on, in the efficient management of medical imaging and health data. At Telemis, we foster a close-knit atmosphere where mutual support and spontaneous collaboration are the norm.

Project Objective

The objective is to integrate an AI-based segmentation tool such as Segment Anything (https://segment-anything.com) or TotalSegmentator (https://totalsegmentator.com) into Telemis' diagnostic interface. The tool must be capable of detecting specific body elements and generating annotations that are directly integrated into Telemis objects and saved in the database.

Context

The Telemis PACS allows for the storage and distribution of medical imaging within a hospital institution. It also includes diagnostic tools enabling the radiologist to perform their analysis and ultimately write their clinical report. In many use cases, it is essential to be able to identify certain elements (tumour, organ, ...) for analysis (counting, measurement, shape, ...). Identifying the contours therefore involves image segmentation. A generic segmentation tool could be very useful in this context across numerous use cases.

Placement Objectives (adapted based on duration and skill level)

- Analysis of existing segmentation tools.
- Identify use cases and retrieve data examples.
- Test the effectiveness of the tools in concrete cases.
- Integrate the tools into the Telemis diagnostic application.
- Retrieve results, integrate into Telemis objects, and save them.
- Development of measurement tools adapted to the use cases.

Required Skills

- Java
- Medical Imaging (not essential)

What the Placement Student Will Gain from This Experience

- Discovery of the use of Artificial Intelligence in a medical imaging context.
- Useful and reusable experience in Java development.
- The opportunity to contribute to a project genuinely used in production.

Profile

- Student in Computer Science, Telecommunications, or Software Development.
- Inquisitive, structured, and motivated by tangible technical challenges.
- Proficient in Java or keen to rapidly improve their skills.