INTERNSHIP AT CASRA – AUTOMATED TAGGING
ABOUT US

CASRA (Center for Adaptive Security Research and Application) is an interdisciplinary team of scientists, security experts, and software engineers with a common purpose and mission. We specialize in researching human-machine interaction and creating products based on those findings to help improve security in aviation and other areas worldwide.

CASRA has a strong record of accomplishment in national and international research projects in the area of psychology, including several EU projects. We publish our research results at conferences as well as in scientific journals and magazines.

IDEA AND EXPECTED OUTCOME

At CASRA, we rely on large quantities of X-ray and computed tomography (CT) data to create trials of differing complexity for our training application. The content is delivered to us from various companies and agencies. Until recently, our team of X-ray image experts had to arduously parse through heaps of contents and add labels manually. Currently, we have started to partially automate this process by using algorithms to automatically add labels.

Until now those algorithms are fairly simple and mainly filter out unusable images. The idea of this internship is to develop new concepts for detecting items such as lighters and use them to further enrich the content metadata.

How to achieve this goal is for discussion. Whether the improvement is made by using convolutional neural networks or other techniques can be defined during the project. The expected outcome is to add more labels automatically than previously, and to have a solid concept how to cover more categories in the future.

WHAT WE EXPECT

• Completed or close to completion of BSc in computer science, electrical engineering, or similar
• Solid grasp or at least some experience in the area of machine learning and computer vision
• Good programming skills in Python
• Programming skills in C# beneficial

WHAT WE OFFER

You will be integrated into a SCRUM team and work closely with supportive professional software engineers, learning how to develop enterprise software.

GENERAL INFO

Min. duration: 3 to 6 months
Salary: CHF 3’000 to 3’500 per month (full time)

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