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COMPUTER VISION ENGINEER

Why join us?

SURGAR is a growing startup working on the development of augmented reality software for minimally invasive laparoscopic surgery. SURGAR is a prizewinner in the prestigious i-Lab and i-Nov innovation competitions, and has won numerous national and international calls for proposals. It has a strong partnership with an internationally recognized surgery department and a computer vision laboratory leader in its field. Our software is based on state-of-the-art technology dedicated to improving the safety, efficiency and speed of the operating procedure. Our technology is deep-tech based on more than 15 years of fundamental and clinical research. We have developed a technology that will change the way surgery is performed ! We strongly value the ethical aspects of the company. SURGAR is based in Clermont-Ferrand where the quality of life excels!

The job

We are looking for an experienced Computer Vision Engineer with expertise in the medical field to contribute to the development of software adapted to medical images and intended for integration into medical devices. As an expert, you will take part in the research and implementation of adapted computer vision algorithms, with a strong ability to prototype, test and validate these softwares in direct collaboration with end-users such as surgeons.

Your mission will include the creation of innovative software libraries, based on research results, to be integrated into medical devices that comply with healthcare regulations. You will be in direct contact with R&D teams and medical professionals to validate the proposed solutions in real-life environments.

Your main missions will be:

- Develop computer vision algorithms dedicated to medical images (segmentation of medical images, motion tracking, 3D reconstruction and alignment of 3D objects with the real scene, etc.).
- Translate research work into functional prototypes that can be tested in real-life conditions with surgeons and other medical users.
- Collaborate closely with researchers, product development teams and healthcare professionals to test and refine solutions in a clinical environment.
- Work with SURGAR peers (peer-coding and reviewing) to design robust, modular software libraries that can be easily integrated into production systems.
- Participate in the integration of these algorithms into medical devices complying with regulatory requirements (2017/745 (EU MDR), FDA).

- Ensure that algorithms are validated in compliance with clinical, safety and performance requirements for medical devices.
- Participate in the publication of research results and technology watch on innovations in medical image processing.
- Contribute, with the clinical evaluation project team, to the experimentation process in real-life conditions: preparation of clinical trials, analysis of user feedback, adjustments to technical solutions.

You
Education and experience:
- Engineering degree or Master/PhD in computer science, computer vision, medical image processing or related field.
- Minimum 3 to 5 years experience in computer vision, possibly applied to the medical field.
- Proven experience in research and development applied to computer vision, with a strong ability to transform academic publications into concrete solutions.

Technical skills :
- Expertise in medical image processing (endoscopy, CT, MRI, ultrasound, X-ray, etc.) and in semantic segmentation, 3D reconstruction, object tracking, 2D and 3D registration.
- Mastery of computer vision and deep learning frameworks (OpenCV, TensorFlow, PyTorch, TensorRT) with a focus on medical applications.
- Experience in software development in Python or C++ for embedded or real-time systems.
- Ability to rapidly prototype research solutions and adapt them to clinical user feedback.
- Good understanding (desirable but not necessary) of standards and regulations specific to medical devices (ISO 13485:2016, 2017/745 (EU MDR), FDA).

Specific skills :
- Experience in optimizing models for constrained medical environments (limited hardware, real-time, critical accuracy).
- Familiarity with clinical testing processes, validation of algorithms in a medical environment, and management of user feedback (surgeons, radiologists, etc.).

Personal qualities :
- Excellent ability to collaborate with healthcare professionals, sensitive to the constraints and requirements of end-users (surgeons, radiologists).
- Excellent ability to collaborate with peers and colleagues.
- Autonomy, rigor and ability to work in a regulated and highly secure environment.
- Interest in technological innovations in the medical field and ability to translate medical challenges into technical solutions.

Terms and conditions
Benefits:
- Participation in projects with a direct impact on improving healthcare.

- Close collaboration with leading research teams and renowned healthcare professionals.
- Stimulating work environment with prospects for advancement in a high-potential sector.
- Attractive working conditions with a competitive salary package.

Recruitment process:

- Preliminary telephone interview.
- Technical test (possibly a case study based on medical images).
- Interview with technical teams and medical managers.
- Final interview with management.

Contact: recruitment@surgar-surgery.com