

## Engineering Position in Computer vision and machine learning (particularly deep learning)

The MediCIS/LTSI lab, INSERM/Université de Rennes 1 is looking for an engineering candidate, for “Project CONDOR, Connected Optimized Network & Data in Operating Rooms”, on modeling and recognition of surgical events in surgical videos. The main objective of this project is to develop novel models to recognize surgical events in surgical videos.

### Environment

With a background in computer science or related fields, the successful candidate will contribute to research in the context of Project CONDOR. During her/his work, the selected candidate will work on implementing state-of-the-art computer vision and machine learning (particularly deep learning) models, and s/he will help analyze findings.

S/he will be considered a full member of the MediCIS team. MediCIS team is part of the LTSI and the “Institut national de la santé et de la recherche médicale” (INSERM), which is the leading research institute in medicine in France. It is composed of 6 full-time professors and researchers. Its research activities include medical image processing and computer assisted interventions. The team is located at the Medical School and has direct collaborations with neurosurgeons, radiologists, and neurologists from the University Hospital. We refer the candidates to the MediCIS website for more information: <http://medicis.univ-rennes1.fr>

### Topic

Like in aeronautics, the project CONDOR aims to build a “control tower” of operating rooms via new real-time steering, communication, recording, exploitation and automation applications. This “control tower” will for instance alert the surgeon in case a problem during an intervention, provide real-time feedback and guidance, enable surgeons to watch the video of an intervention after it has been performed, and browse events in videos so as to educate surgeons and help them better prepare for the future interventions. Our candidate will particularly work on modeling and recognizing surgical events in surgical videos with real-time guidance and education purposes in mind.

### Candidate Requirements

The candidate should have a degree in computer science or related fields, with a focus on computer vision, machine learning (particularly deep learning), data analysis and image processing. S/he should have experience in computer vision and machine learning (particularly deep learning). Strong programming skills in Python and deep learning frameworks such as tensorflow, pytorch or Caffe are required. Experience on computer vision projects with deep learning is required, experience with temporal data (video) will be a bonus. The working language will be in English and French, the candidate is required to have good written and oral English in order to have a good communication with existing members of the project.

The position is funded for a year. Location:

MediCIS team, Laboratory of Signal and Image Processing, Medical University, Rennes, France.

### How to Apply

Applicants should first email [pierre.jannin@univ-rennes1.fr](mailto:pierre.jannin@univ-rennes1.fr) directly with one zip file

"FirstName\_LastName.zip" including the following:

1. CV (up to two pages, IELTS/TOEFL if not native).
2. Personal statement (one page).
3. Sample works indicating your skills/interest (projects, courses, github account, papers etc.).

Qualified candidates will be contacted for further consideration and the selected candidate will be guided through the formal application process. The positions will be open until filled; however, we are looking to fill the position immediately.