

Job: Full time scientific software engineer (1 year) – INSERM U846, Bron, France

We are looking for a full time scientific software engineer to work on the development of our cutting-edge research platform ‘super-Wizard of Oz’ financed by the ANR ‘Retour Post-doctorants’ SWoOZ. The successful candidate will get to work on software development in different areas including computer vision, computer graphics and robotics.

Context and Job description

Our project aims at developing a real-time puppetry method to control avatars and robots. It will be then possible to mirror a person’s behaviours on an avatar and/or a robot in real-time. The system latency will be minimized using parallel programming. This platform will be used to investigate the ‘real’ limits of human-avatar and human-robot interaction. These findings will help to improve human computer interaction in general and virtual agents and humanoid robots in particular.

The scientific software engineer will develop software to track in real-time face, eye gaze and hand movements from dedicated devices (Kinect, eye tracker). He will be also in charge of developing software to control in real-time avatars and robots (iCub). In addition, he will setup and maintain a revision control system (SVN) and external and internal websites.

Skills and experience

The candidate should have the following skills and experience:

- A Master/Engineer or Doctorate degree in computational science with focus on mathematical programming, computer vision or computer graphics;
- A highly level of competence in C and C++ under Windows and Linux;
- A strong grounding in a broad range of computer vision techniques and experience with OpenCV;
- Up to date theoretical understanding and practical experience of feature based image matching (ASM, AAM, CLM...);
- A strong grasp of linear mathematics and linear and non-linear optimisation;
- A good level in parallel programming (OpenCL and/or CUDA).
- Robotics programming experience;

The following skills and experience are not essential to us but would provide you with an advantage:

- Java development;
- Qt programming;
- Computer graphics experience (OpenGL, Java3D, JOGL, PCL...);
- SVN server, website setup and maintenance experience;
- Human-Computer Interaction and/or Computer Facial Animation experience.

Duration: 1 year

Starting date: February-March 2011

Place: Bron (69) near Lyon, France

Salary: ~2319 euros (gross)/month adjusted according to experience and family situation

Please email your application (including CV, 2 referees’ name and contact details) to guillaume [dot] gibert [at] inserm [dot] fr before 29th January 2012.