



SERG Technologies www.sergtechnologies.com

Company Profile:

SERG technologies is an Imperial College spin-out developing smart wearables in healthcare. This role is an exciting opportunity for a motivated development engineer to join a fast-paced start-up company, working on all-encompassing gesture detection for the next generation of Human-Machine Interfaces (HMI). We are creating both hardware and software platforms for activity monitoring in the home and in medical applications, based on a new kind of muscle sensing technology. This cutting edge-technology is set to go viral and the successful applicant could help to make that happen!

Job title: Development Engineer (Bionics)

- This is a permanent full-time position.
- Salary: 35k-38k
- Location: South Kensington, London, UK

The Role: We are looking for a driven engineer to further develop our existing HMI technology. The successful applicant will lead on the development and testing of a new system to identify user intent, using our own patented muscle sensors and activity monitors. The role will also include the design and implementation of activity identification, in which prolonged and unstructured use will be analysed through a range of physiological indicators in a variety of conditions.

The successful applicant will have a strong background in physiological signal processing, inertial measurement, embedded systems and activity detection.

Responsibilities will include:

- Developing reliable intent detection solutions for 'always on' muscle sensing.
- Improving robustness of time and frequency-based classification techniques for intent derivation from physiological data.
- Develop cloud-based solutions for remote data collection during our testing phases.

Desired qualifications and skills:

- An engineering or computing degree (PhD level or equivalent).
- Familiarity with;
 - using object-oriented programming languages (Python, C family, Java),
 - machine learning toolboxes such as Tensorflow 2.0, scikit-learn, Pytorch,
 - programming mobile applications (Android is preferred),
 - developing cloud-based solutions,
 - translating solutions to embedded platforms.

Salary will be commensurate with qualifications, skills and track record and will include performance incentives based on company growth.



What to do next:

Applicants are invited to send their 2-page CV and job specific cover letter to Samuel Wilson at s.wilson@sergtechnologies.com with a subject line which contains the **Job title**.

Any questions relating to the position can be addressed to info@sergtechnologies.com, and we will get back to you as soon as possible.

The first round of applications will close on 29th January 2020 and invitations to interview will be issued by 9th February.



Find out more about our work on YouTube:

How close are we to Star Wars-like prosthetics?

<https://www.youtube.com/watch?v=RZd866aK5IU&list=PLRCb4pH3hx0uIOXWX-8qmZRMBuFNVfRTy>

Physiological Gesture Recognition for UAV Teleoperation

<https://www.youtube.com/watch?v=CJb0KW5RrU0&list=PLRCb4pH3hx0uIOXWX-8qmZRMBuFNVfRTy&index=4&t=0s>

Biomechatronics NU Interface

https://www.youtube.com/watch?v=o7J1Z_4rRnw&list=PLRCb4pH3hx0uIOXWX-8qmZRMBuFNVfRTy&index=5

Read some of our research at Imperial College:

Upper-limb prosthetic control using wearable multichannel mechanomyography

<https://ieeexplore.ieee.org/abstract/document/8009427>

Formulation of a new gradient descent MARG orientation algorithm: Case study on robot teleoperation

<https://www.sciencedirect.com/science/article/pii/S0888327019303012>

Hand gesture recognition with convolutional neural networks for the multimodal UAV control

<https://ieeexplore.ieee.org/abstract/document/8101666>

Automated assessment of symptom severity changes during deep brain stimulation (DBS) therapy for Parkinson's disease

<https://ieeexplore.ieee.org/abstract/document/8009462>

Find out more about the Biomechatronics Lab at Imperial College:

<http://www.biomechatronicslab.co.uk/>