

Job title	PhD Position in Machine Learning
Ref	2018-15-SARCOS1
Job type (PhD, Post-doc, Engineer)	PhD
Contract duration (months)	36 months
Qualifications (Master degree, PhD...)	MSc
Job hours (full time/ part time)	Full time
Employer	UBFC – Université de Franche-Comté
Host Laboratory	FEMTO-ST / DISC
URL Host Laboratory	http://www.femto-st.fr/en/Research-departments/DISC/Research-groups/VESONTIO/
Address Host Laboratory	UFR Sciences et techniques. Bâtiment Métrologie. <i>16 route de Gray. 25030 Besançon cedex.</i>
Job description	<p>The Department of Computer Science and Complex Systems (DISC) of the FEMTO-ST Institute is seeking a PhD student to work on the SARCoS project.</p> <p>The SARCoS project aims to develop intelligent tools for automating the model-based testing of complex connected systems, to find security and reliability problems. Using Machine Learning techniques, these tools will (1) infer domain-specific test models, (2) generate attack scenarios and by learning from execution interaction data, (3) refine and prioritize test cases and (4) produce smart analytics of test results. Automated model-based testing will be used to generate security tests targeting system vulnerabilities by false data injection attacks, and robustness tests using behavioral model-based fuzzing.</p> <p>As part of the SARCoS project, the PhD student will conduct high-quality research under the supervision of Prof. Bruno Legeard and Prof. Fabrice Bouquet. The PhD student will be involved in activities regarding machine learning for security testing, in application domains such as air traffic control, secure timing, sensor networks, and IoT systems.</p> <p>Responsibilities include:</p> <ul style="list-style-type: none"> • Conducting research; • Publishing in top-notch conferences and journals; • Mentoring of undergraduate and/or graduate students.

Supervisor(s)	<p>Legeard, Bruno (bruno.legeard@femto-st.fr)</p> <p>Bouquet, Fabrice (fabrice.bouquet@femto-st.fr)</p>
Candidate profile	<p>The position will require a master's degree in computer science or related topic. A background in machine learning techniques, such as reinforcement learning, deep learning or association-rule mining, is strongly recommended. This would be appropriately demonstrated with a master's degree (and/or a master's thesis) in the domain.</p> <p>Ability to work both independently and as a team player are expected.</p> <p>In addition to good theoretical knowledge, interest and experience in software development and testing, as well as security testing, are highly welcomed.</p> <p>Firsthand experience in any of the four case study domains is appreciated.</p> <p>Candidates who are finishing their master's thesis are eligible to apply; however, they must have obtained their master's degree before taking up their position at FEMTO-ST.</p>
Keywords	Machine Learning, Security Testing
Application deadline	June 30 th , 2018
Starting Job	October 1 st , 2018
Application	<p>PhD Position</p> <p>Please send the following documents (all in one PDF file) by e-mail to job-application@ubfc.fr:</p> <ol style="list-style-type: none"> 1) For EU candidates: Copy of your national ID card or of your passport page where your photo is printed. For non-EU candidates: Copy of your passport page where your photo is printed. 2) Curriculum Vitae (1 page). 3) Letter of motivation relatively to the position (1 page). 4) Copy of your Master degree if already available. 5) Copy of your final marks and ranks. 6) Coordinates of reference persons (maximum 3, at least your master thesis supervisor): Title, Name, organization, e-mail. <p>If you have questions regarding the application, please contact the supervisors.</p>