Vacancy Announcement

United Nations University

International Institute for Software Technology

(UNU-IIST)

2 Post-Doc Positions

Applied Runtime Verification

The United Nations University's International Institute for Software Technology (UNU-IIST) in Macao is looking for two post-doctoral researchers to join the newly established project on "ARV - Applied Runtime Verification" in collaboration with the Macao University of Science and Technology (MUST). The positions are fully funded by UNU-IIST and the Macao Science and Technology Development Fund.

UNU-IIST is a Research and Training Centre of the United Nations University. Its mission is to help developing countries strengthen their education and research in computer science and their ability to produce computer software. It thus provides a unique setting with a proven record in the application of mathematical methods to the production of useful theories for practical problems and for training young researchers in Formal Methods and Theoretical Computer Science.

The ARV project aims to integrate techniques from Runtime Verification (monitoring of applications at runtime) into the rCOS method of component-based model driven software development. The rCOS framework provides both a formal language to specify behavioural protocols and UML-based modeling of software systems.

Research topics include, but are not limited to:

- specification languages for verification properties, their expressiveness and visualization
- efficiency of runtime monitors: analyse, visualize and improve performance of runtime monitors
- guided runtime verification: combine testing and runtime verification
- synthesize and monitor runtime checks in generated code from rCOS specifications (regular expressions, state machines, and sequence diagrams)
- event sources on the operating system level (e.g. DTrace)

The project is led by Volker Stolz (UNU-IIST) and Zhang Yu (MUST). Funding is available for up to three years. The salary range (tax exempt) is 2,000 to 3,000 USD per month depending on experience. Accommodation and medical insurance is also provided. Candidates are expected to produce original research results within the scope of the project, and should have a proven track record in Runtime Verification or a closely related field.

They will be given opportunity to supervise UNU-IIST fellows (master- or PhD students) within the project, and teach short courses in-house or at schools organized by UNU-IIST. Research will be conducted in close cooperation with the rCOS team, which currently has members from China, France, Germany, South Korea, and the UK, and colleagues in Denmark and China. Macao is a multi-cultural city blending Asian and Western elements, about one hour from Hongkong, and offering easy access to China and South-East Asia.

The positions are **open** immediately. Prospective candidates should submit their electronic application including CV and a list of publications directly to the project leaders **until June 16th, 2009**. Please list the email addresses of 3 people to whom we can apply for references. Such people should be able to comment authoritatively on your work, education, skills, and abilities. Please indicate if you do not want us to contact them at this stage. You may also attach soft copies of up to 3 of your papers, e.g. if the publication is not easily/electronically available.

Dr. Volker Stolz	Dr. ZHANG Yu
Ass. Research Fellow	Ass. Professor
UNU-IIST	MUST