Value Added Teaching: from Performance Engineering to Software Engineering

Abstract: High impact research requires excellent ideas and outstanding research students. To increase the prospectus of our universities graduating outstanding talent, excellence and innovation in teaching is required.

In this talk, I will give a broad overview of my main research interests: performance engineering of database systems and contextualized empirical software engineering. I will describe the motivation behind these research areas and how this led to my interest in the localization of software engineering education. The talk will conclude with a description of my collaboration with Dr. Zeynep Avcı in the Faculty of Education.

Short Bio: Dr. Osman obtained a BSc in Computer Science with Honors in 1995 and an MSc in Computer Science in 2001 both from the Faculty of Mathematical Sciences, University of Khartoum, Sudan. She worked as a lecturer and a software developer in Sudan for 10 years. She completed her PhD in Software Performance Engineering in 2010 at the University of Bradford, UK. In 2011, Dr. Osman joined the Department of Computing at Imperial College London, UK as a visiting post-doctoral Research Associate on a Schlumberger Foundation Fellowship and continued on the L'Oréal-UNESCO Pan Arab Regional Fellowship in 2012. From 2013 to 2015, she worked as a Research Associate on a number of UK and EU funded research projects. Currently, she is an Associate Professor at the Department of Computer Science at the University of Khartoum, Sudan.

Her main research area is the performance engineering of database/data-store systems for real-time decision making, specifically in autonomous DBMSs and cloud data-stores. The goal of her work is to build models and tools that can be implemented in realistic scenarios, utilizing system design requirements through quantitative modelling and simulation. In addition, Dr. Osman’s research interests extend to localized software engineering research for constrained environments and the teaching of software engineering in developing countries.

She is a Fellow of the Higher Education Academy (UK), Senior Member of the IEEE & Member of the ACM.