Infrastructure for Knowledge-driven and Customizable Digital Health to Assist Primary Care Providers

Abstract. Electronic health record systems (EHR) store huge amounts of clinical data to be shared among healthcare providers (physicians, specialists, pharmacists, radiologists, laboratorists) to facilitate and enhance their healthcare delivery. Physicians in their workplaces are already overwhelmed by the continuous flow of information and numerous interrupts they receive during their daily practices. To effectively incorporate such new sources of large data (EHR) in physicians' practices, data analytics and smart computerized assistance are required to collect, process, and manage such information to allow physicians concentrate on efficient diagnosis and treatment tasks. In this joint presentation between researchers in medicine and computer science, we propose an infrastructure which provides efficient clinical data integration, smart and customizable software agents, and intelligent decision support systems which produce clinical knowledge from the raw information in EHRs and capture practical skills from specialists to provide effective assistance to physicians during their practices or to be used in medical education.

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Friday November 11, 2016
1:00pm – 1:50pm
Bate Building, Room 1001
Refreshment will be served

Biography. Dr. Kamran Sartipi is a faculty member at the ECU Department of Computer Science with interdisciplinary research in software engineering, medical informatics, information security, and data analytics. He has been a pioneer researcher in applying data mining algorithms on static and dynamic analyses of software systems. Dr. Sartipi has over 70 publications in different scientific areas of computer science and medical informatics, has supervised several PhD and Master's students in interdisciplinary fields, and developed several software tools in system analysis and medical informatics.

Mr. Gerard Camargo is Business Application Technician at the ECU School of Dental Medicine whose primary role is developing automated systems and processes to maximize large data management within Ross Hall and it's eight external clinics located throughout North Carolina. Mr. Camargo has his Master of Public Health with a concentration in Epidemiology and Biostatistics. Using his background, he has designed and developed research software that allows the School of Dental Medicine to extract clinical data from their electronic health records to use for research, quality assurance, and grants proposals.