

Carl Elks, Ph.D.

Associate Professor, Department of Electrical and Computer Engineering at VCU College of Engineering

Richmond, VA, US

Professor Elks' career focuses on maturing and advancing the state of the art in the areas of safety assessment and fault tolerance.

Biography

Dr. Elks' professional experience and interests over the past 20 years are in the analysis, design and assessment of dependable embedded systems which are typically found in critical infrastructure such as nuclear power, medical systems, and autonomous vehicles. As such, his career has been focused on maturing and advancing the state of the art in the areas of safety assessment, cyber-security, and fault tolerance/resilience through education, innovation and technology demonstration projects. He is past recipient of the national technology transfer award from the Federal Laboratory Consortium. His recent research and teaching interests include resilient Cyber Physical Systems, Systematic SW testing, Runtime Verification and Monitoring, Fault injection, cyber threat and vulnerability, and modernization strategies for energy and utility infrastructures.

Areas of Expertise

Runtime Verification and Monitoring, Fault Injection for Cyber Physical Systems, Complexity Aware Design for Critical Systems, Assessment Methods for Dependable and High Integrity Systems, Cyber Physical Systems, Human System Interactions in Autonomous Systems, Biologically Inspired Self-Healing Systems

Affiliations

IEEE, American Nuclear Society

Education

University of Virginia

Ph.D. Electrical Engineering

University of Virginia

M.E. Electrical Engineering

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