

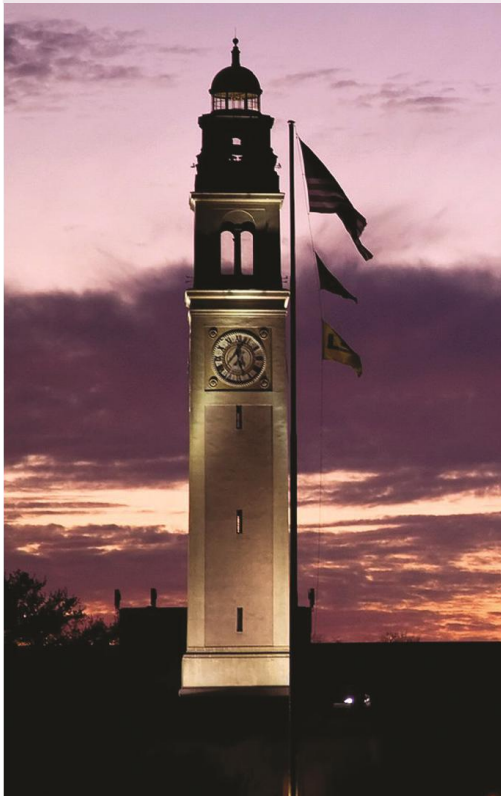
COMPUTER SCIENCE &
ENGINEERING
SEMINAR

School of Electrical Engineering and
Computer Science

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Tuesday, February 25

**2301 Patrick F. Taylor Hall
Louisiana State University**



Identifying and Protecting Architecturally Significant Code

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Every system is a legacy system, the moment a programmer writes a line of code it becomes a legacy. In even relatively new systems similar to long lived systems, developers are faced with a body of code that they need to understand, and from which they need to extract architectural knowledge. Unfortunately, anecdotal evidence has shown that such knowledge tends to be tacit in nature, stored in the heads of people, and inconsistently scattered across various software artifacts and repositories. Given the size, complexity, and longevity of many projects, developers therefore often lack a comprehensive knowledge of architectural design decisions and consequently make changes in the code that inadvertently degrade the underlying design. On the other hand, design knowledge can often be recovered through mining software repositories and analyzing the code. Such knowledge is crucial for preventing degradation of software qualities. This talk will present a novel approach that utilizes machine learning techniques to detect architectural design decisions in the code, monitor them during long-term maintenance activities, and help protect critical areas of the code from potential architecture degradation.

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Mehdi Mirakhorli is a doctoral candidate at DePaul University with a research background in software architecture design, requirements engineering, and application of machine learning and information retrieval methods to tackle large-scale software engineering problems. Previously, he worked as a software architect on large data-intensive software systems in banking, health care and meteorological domains. He has served on the Program Committees for several workshops and conferences and as Guest Editor for a special edition of IEEE Software on the Twin Peaks of Requirements and Architecture.



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