

SEMLA 2019

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Hands-On: Metamorphic Testing of Deep Neural Networks

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With the recent tremendous success of deep learning (DL) in many cutting-edge applications, DL has become a key driving force of the many emerging innovated technology. However, the quality assurance of DL software is still at an early stage. Different from traditional software, DL development follows a data-driven programming paradigm, which challenges traditional testing techniques. In the last two years there has been an increasing demand to test DL systems; old ideas have been reformulated and new approaches have been proposed to test and increase our trust in DL systems. In this session, we would first introduce basic concepts and the state-of-the-art existing DL testing techniques; this will be followed by a hands-on session to demonstrate how techniques such as metamorphic testing enables to increase our trust in a DL system for image recognition.



This hands-on session aims to let the participants from diverse background quickly capture, appreciate, and learn the basics of metamorphic testing of DL networks.

What is SEMLA?

SEMLA aims at bringing together leading researchers and practitioners in software engineering and machine learning to reflect on and discuss the challenges and implications of engineering complex data-intensive software systems.

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