Validation, Verification, and Learned Components

Michael Furlong
SGT Inc./NASA Ames' Intelligent Robotics Group
All Opinions Expressed are My Own
Validation

Verification
Validation – Are you doing the right thing?

Verification
Validation – Are you doing the right thing?

Verification – Are you doing the thing right?
Validation in Learned Systems

The algorithm and the data is what defines the performance of the system.
Microsoft Tay
More Serious Application

Predictive Policing
Challenge 1

Create FDA or “AllTrials” for systems with learned components.
Verification
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- Machine Learning approximates complex functions we don't necessarily understand
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  - But we don't necessarily understand the function after we've “learned” it.
Verification

- Machine Learning approximates complex functions we don't necessarily understand
  - But we don't necessarily understand the function after we've "learned" it.
- Other scientific fields have encountered this before.
Challenge 2

Promote Empiricism by creating rewards for reproduction studies and rigorous experimental methods.