## **GUI Testing**

Software Testing (3104313)

Amirkabir University of Technology Spring 1399-1400



GUI Testing

### 1. Event Selection

2. Oracle Specification

1. Event Selection

- 3. How much testing is enough?
- 2. Oracle Specification
- 1. Event Selection

GUI Testing Frameworks, Techniques, Approaches, ...

# GUI Testing Frameworks, Techniques, Approaches, ...

- Script-based frameworks
- Capture/replay tools
- Random-walk tools
- Automated model-based
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### Few Examples....

- O. Rodriguez-Valdes (2021) "**Towards a testing tool that learns to test**," IEEE/ACM 43rd International Conference on Software Engineering: Companion Proceedings (ICSE-Companion).
- J. Eskonen, J. Kahles and J. Reijonen (2020) "Automating GUI Testing with Image-Based Deep Reinforcement Learning," IEEE International Conference on Autonomic Computing and Self-Organizing Systems. ACSOS.
- Hu R., Chen M., Cai L., Chen W. (2020) **Detection and Segmentation of Graphical Elements on GUIs for Mobile Apps Based on Deep Learning**. In: Liu J., Gao H., Yin Y., Bi Z. (eds) Mobile Computing, Applications, and Services. MobiCASE.

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### Few Examples....

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N. Walkinshaw (2020) "Improving Automated GUI Testing by Learning to Avoid Infeasible Tests," IEEE International Conference On Artificial Intelligence Testing. AITest.

W. Choi, K. Sen, G. Necul and W. Wang (2018) "**DetReduce: Minimizing Android GUI Test Suites for Regression Testing**," IEEE/ACM 40th International Conference on Software Engineering. ICSE.

N. Mirzaei, J. Garcia, H. Bagheri, A. Sadeghi and S. Malek (2016) "Reducing Combinatorics in GUI Testing of Android Applications," IEEE/ACM 38th International Conference on Software Engineering. ICSE.