The Name of the Title Is Hope ZHENG LI*, Southeast University, China

Additional Key Words and Phrases: Do, Not, Us, This, Code, Put, the, Correct, Terms, for, Your, Paper

ACM Reference Format:

 Author's Contact Information: Zheng Li, Southeast University, Nanjing, China, LiZheng040910@163.com.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than the author(s) must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

 $\, @ \,$ 2018 Copyright held by the owner/author(s). Publication rights licensed to ACM.

Manuscript submitted to ACM

Manuscript submitted to ACM 1

 $^{^*\}mbox{Both}$ authors contributed equally to this research.

Trovato et al.

53	1 Introduction	
54 55	1.1 Motivation of AI in Software Testing	
56	1.2 Al as a Tool for Testing Traditional Systems	
57 58	2 Al-Driven Test Data Generation	
59 60	2.1 Data Augmentations for Edge Cases	
61	2.2 Generative AI for Synthetic Data	
62 63	2.3 Adversarial Sample Generation	
64	3 Al-Powered Test Case Optimization	
65 66	3.1 Boundary Value Analysis with BCD Optimizat	ion
67	3.2 Reinforcement Learning for Test Exploration	
68 69	4 Al in Automated Testing Frameworks	
70	4.1 Self-Supervised Program Repair (SelfAPR)	
71 72	4.2 Al-Driven CI/CD integration	
73 74	4.3 DeepXplore for White-Box Testing	
75	5 Al for Defect Prediction and Root-Cause Analys	is
76 77	5.1 Machine Learning for Bug Localization	
78	5.2 Explainable AI (XAI) in Test Debugging	
79 80	5.3 Predictive Analytics for Test Prioritization	
81	6 Challenges	
82 83	6.1 Over-Reliance on Training Data	
84 85	6.2 Ethical and Legal Risks in Al Testing	
86	6.3 Scalability and Computational Costs	
87 88	7 Applications	
89	7.1 Al in Medical Software Testing	
90 91	7.2 Al for Autonomous Driving Validation	
92	7.3 Al in Chatbot and NLP Testing	
93 94	8 Future Directions and Conclusion	
95	8.1 Emerging Al Techniques in Testing	
96 97	8.2 Integration with Agile and DevOps	
98 99	8.3 Summary and Research Implications	
100		
101 102		
102		

103 104

Temporary page! ETEX was unable to guess the total number of pages correctly. As there was some unprocessed data that should have been added to the final page this extra page has been added to receive it. If you rerun the document (without altering it) this surplus page will go away, because ETEX now knows how many pages to expect for this document.