




Summer Report

Semyon Grigorev





Saint Petersburg State University

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AI-Guided Symbolic Execution

 Maxim Nigmatulin, Ekaterina Shemetova, Anna Chistyakova

- ✓ Infrastructure for training
- ✓ Basic dataset
- ✓ Basic integration with USVM
- ✓ Basic evaluation

-  Full integration with USVM
-  Dataset extension
-  GNN improvement and training
-  Performance tuning

Searcher	Coverage		Steps		Tests		Errors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
AI	100	100	300	300	1	1	1	1
BFS								
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Other Projects

- ✓ Datalog-based static code analysis (Rustam Azimov)
 - ☹ Pure Datalog is not flexible enough
 - ⚙ Switched to IFDS-based analysis
- ⚙ SAT on GPGPU (Egor Orachev)
 - ✓ First prototype
 - ⚙ GNN + SAT + GPGPU: can it be used in $\mathcal{AI} + SE$ pipeline
- ⚙ High-performance graph analysis (Egor Orachev, Igor Erin, Artemii Patov)
 - ✓ Paper
 - ⚙ Core refactoring
 - ⚙ Package publishing