



# Formal Language Driven Data Analysis Research Group Report

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# Projects Status

## Graph analysis

- Semyon Grigorev
- Rustam Azimov
- Ekaterina Shemetova
- Alexandra Istomina
- Denis Porsev

- ✓ Interprocedural graph for symbolic execution engine
  - ⚙ Advice on graph-based declarative code analysis techniques
  - ⚙ Dataset for path querying algorithms evaluation
  - ⚙ Evaluation of graph querying algorithms
  - ⚙ Submission to GRADES-NDA 2023 (at SIGMOD)
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## Linear algebra

- Egor Orachev
- Kirill Garbar
- Igor Erin (December)

- ✓ Implementation of basic graph analysis algorithms
- ⚙ Performance tuning
- ⚙ Submission to GrAPL 2023 (at IPDPS)

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## Parsing algorithms

- Semyon Grigorev

- ✓ Overview of modern parsing technique
- ⚙ Precise error recovery algorithm for generalized LL

# Graph Analysis: Details

- ✓ Interprocedural graph for symbolic execution engine (in collaboration with Dmitriy Mordvinov)
  - ⌚ Interprocedural navigation for symbolic execution engine (6 months)

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- ⚙ Advice on graph-based declarative code analysis techniques
  - ✓ Participating in discussions on graph database utilization for code analysis
  - ✓ Collaboration with Dmitriy Ivanov and Evgeniy Koshkin on graph-based code analysis engines
  - ⚙ Overview of graph-based declarative code analysis techniques (few weeks)

# Graph Analysis: Details

- ✓ Interprocedural graph for symbolic execution engine (in collaboration with Dmitriy Mordvinov)
  - ⌚ Interprocedural navigation for symbolic execution engine (6 months)
- ⚙ Advice on graph-based declarative code analysis techniques
  - ✓ Participating in discussions on graph database utilization for code analysis
  - ✓ Collaboration with Dmitriy Ivanov and Evgeniy Koshkin on graph-based code analysis engines
  - ⚙ Overview of graph-based declarative code analysis techniques (few weeks)
- ⚙ Different graph-based code analysis algorithms comparison
  - ⚙ Dataset for path querying algorithms evaluation
  - ⚙ Evaluation of graph querying algorithms
  - ⚙ Paper submission in 3–4 months