

User Problem

Design Space

- Parameters
- Constraints

Optimization Metrics

- Circuit Area
- DNN Accuracy
- Execution Time
- ...

Local measurements

- Initial explorations, validation

1. Design Space specification:
 - Parameters, constraints, metrics
2. Performance measurements
3. Optimization method choice

Design Space Exploration

Experimental Design

- Initial experiments
- Cost reduction

Statistical Learning and Search Heuristics

- Where to explore next
- Exploit models

Statistical Analysis

- Keep track of optimization
- Building & reusing models
- Data visualization

1. List of experiments to run
2. Best configuration
3. Statistical Analyses
4. Optimization method suggestions