



Theme 1: Current Situation of GitHub Actions

RQ1-RQ2 (A)

- 1) Data Visualization
- 2) Statistical Approach

Theme 2: Usage of GitHub Actions

RQ3-RQ5 (B,C)

- 1) Data Visualization
- 2) Statistical Approach
- 3) Sequential Pattern Discovery using Equivalence classes(SPADE)

Theme 3: Impact of GitHub Actions

RQ6-RQ8 (A,B)

- 1) Data Visualization
- 2) Regression Discontinuity Design(RDD)