

Performance Tracking in CI

Project Summary

Create a web application that integrates with an existing buildbot infrastructure to fully automatically track the performance of many aspects of Halide over time, including but not limited to compile times, code size, memory footprint (RSS and stack usage), and execution speed for both the compiler proper and the optimized pipelines. When evaluating a pull request, a clear visualization can ensure you notice whether there is any metric changed at a glance.

Demo

The site has been deployed to <https://halide-perf-site.vercel.app/>

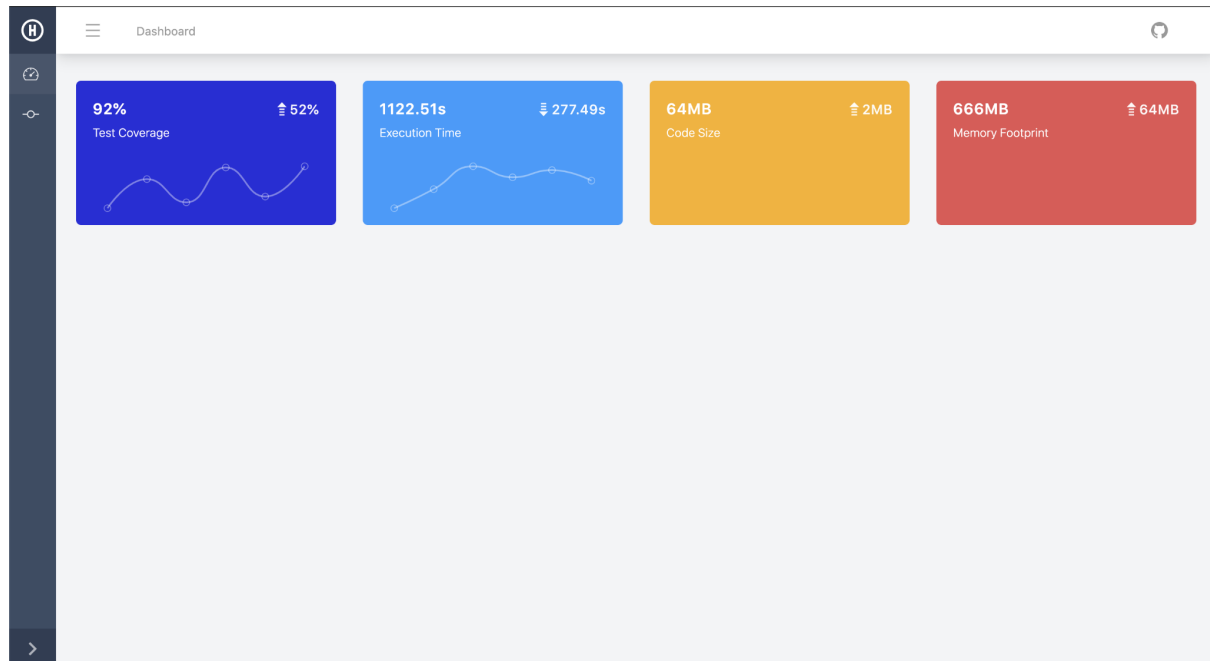
What is done

Important commits are shown below:

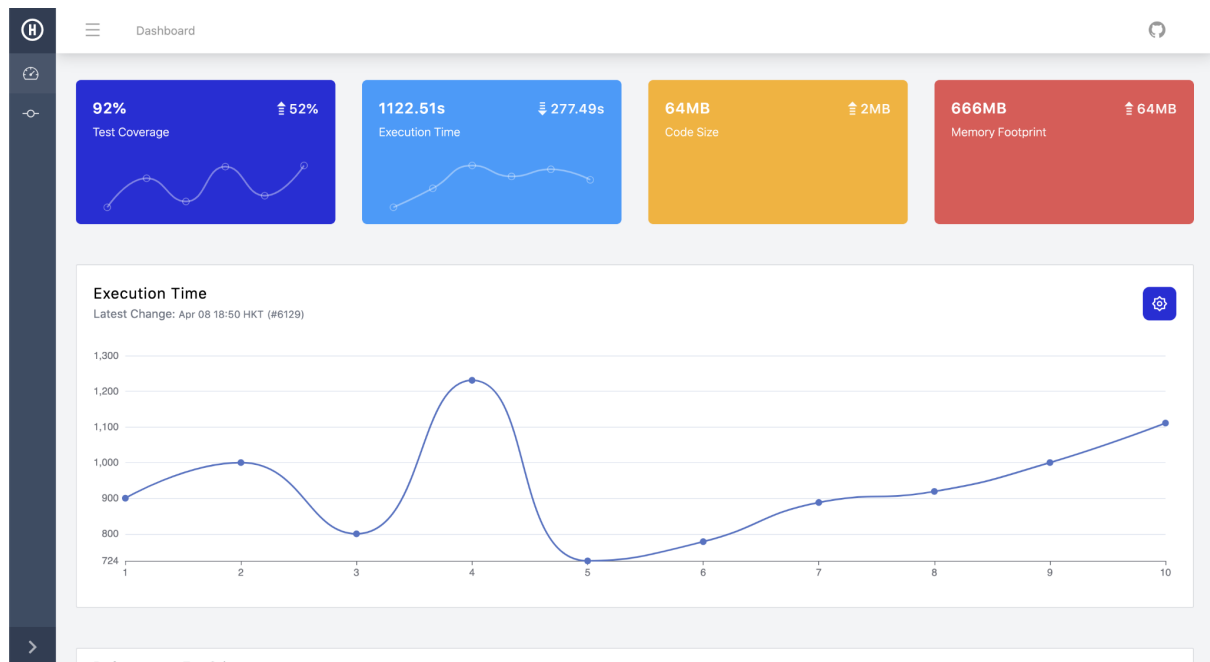
[4e83c17](#): Add husky for pre-commit code format checking

[748e861](#): Add GitHub action for code format checking

[a0fd9d4](#): Add page layout and test coverage viz card



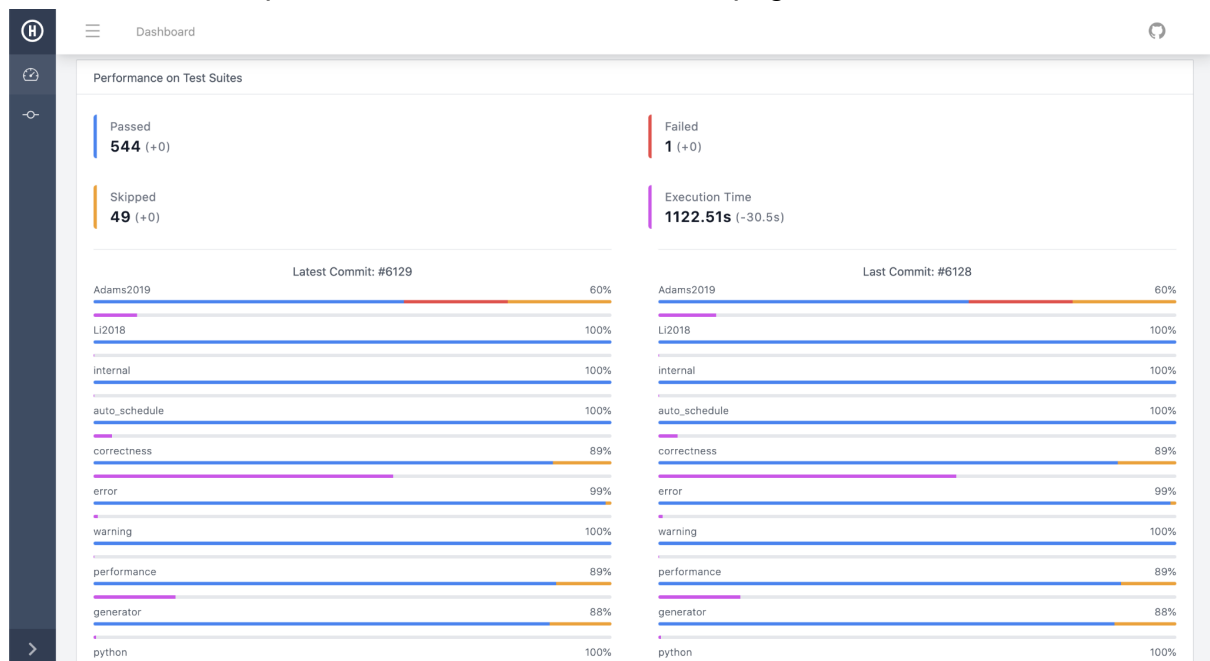
[96f147b](#): Add execution time card, and execution time period viz



[11d3702](#): Add test coverage period viz, fix auto fix bugs

[09c8325](#): Add performance of test suites on overview page

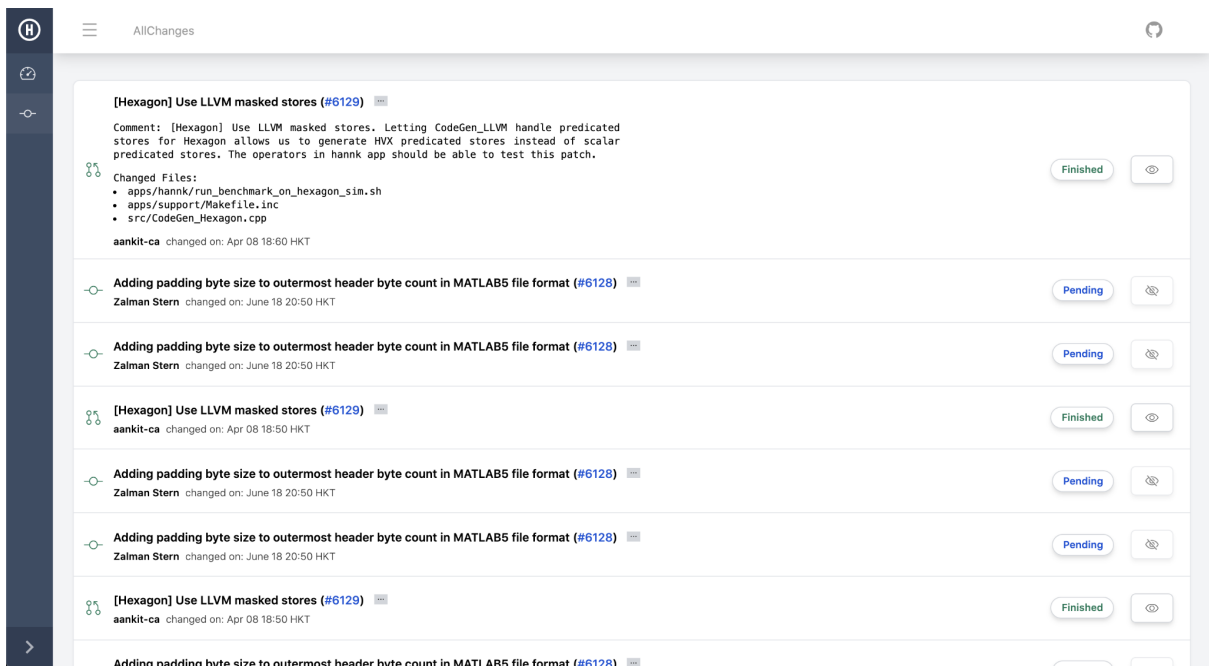
[242a8ef](#): Add comparison for test suite at overview page



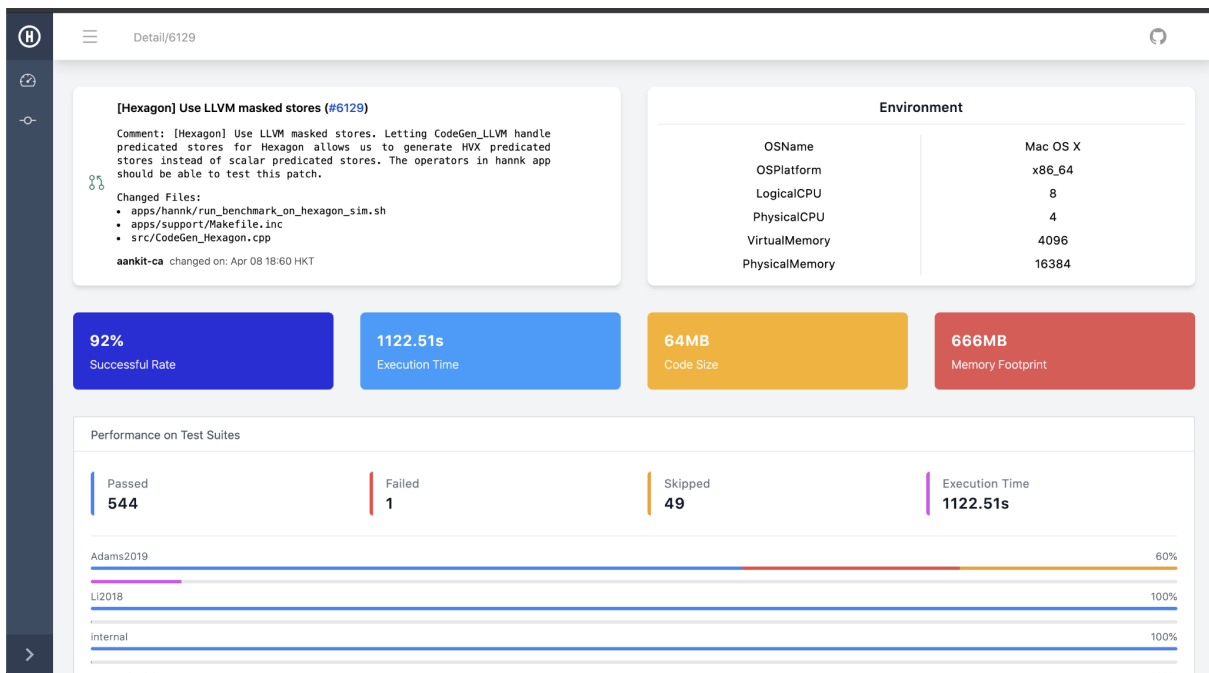
[cc63eb4](#): Add allCommits page router and basic layout

[60049a2](#): Add 404 page to catch wrong URI

[e083e6d](#): Done allChanges menu



[80e176e](#): Done detail page with table left



[56d4a0b](#): Add xs size for media query

[868c2cd](#): Fix: cannot access full URL in browser

[cb12f7f](#): Add detail info for every test

[479ce71](#): Add server and deploy on Google Cloud for receiving data

Detail/6129

correctness_multi_gpu0%

Details of each test

demo_apps_autoschedulerAdams2019

name: demo_apps_autoscheduler

path: ./src/autoschedulers/adams2019

fullName: ./src/autoschedulers/adams2019/demo_apps_autoscheduler

fullCommandLine: /Users/yfeng/Desktop/Halide/build/src/autoschedulers/adams2019/demo_apps_autoscheduler "--benchmarks=all" "--benchmark_min_time=1" "--estimate_all"

Execution Time: 1.23533

Processors: 1

Completion Status: Completed

Command Line: /Users/yfeng/Desktop/Halide/build/src/autoschedulers/adams2019/demo_apps_autoscheduler "--benchmarks=all" "--benchmark_min_time=1" "--estimate_all"

Environment: HL_TARGET=host #CTEST_RESOURCE_GROUP_COUNT=

measurement: Benchmark for demo produces best case of 0.0210335 sec/iter (over 3 samples, 51 iterations, accuracy 2.3%). Best output throughput is 0.11 mpix/sec.

Label: Adams2019

type: failed

Fail

demo_included_schedule_fileAdams2019

Pass

test_apps_autoschedulerAdams2019

Pass

test_perfect_hash_mapAdams2019

Skip

test_function_dagAdams2019

Pass

demo_gradient_autoscheduler1/2019

Pass

TODO

1. Integrate with the buildbot's database to access data
2. Collect code size, memory metrics
3. Report changes directly to GitHub PR when any test metric changes