

Krishna Kumar

Team leader, CB-Geo: Computational Geomechanics



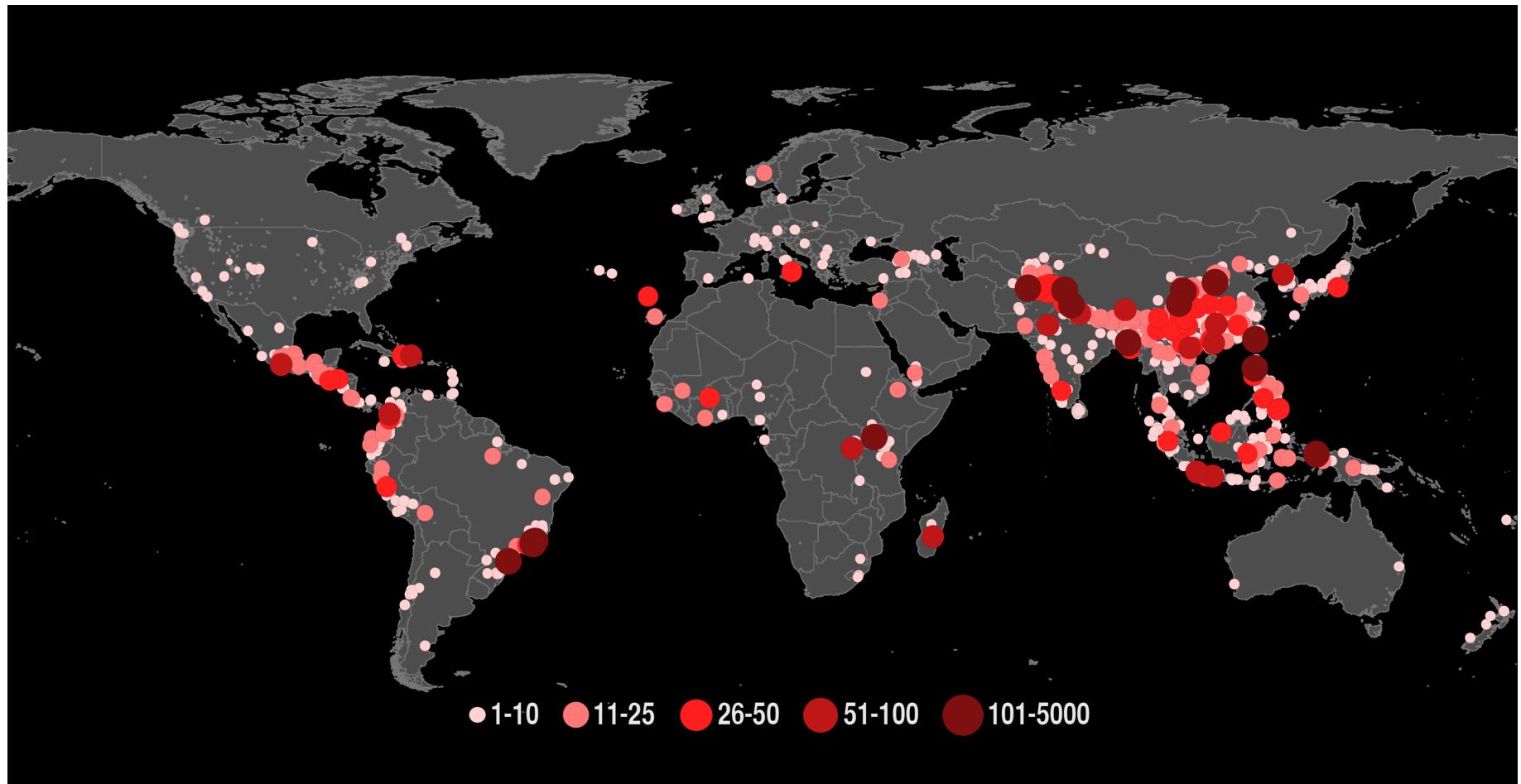
kks32@cam.ac.uk

Promoting research through sustainable software development



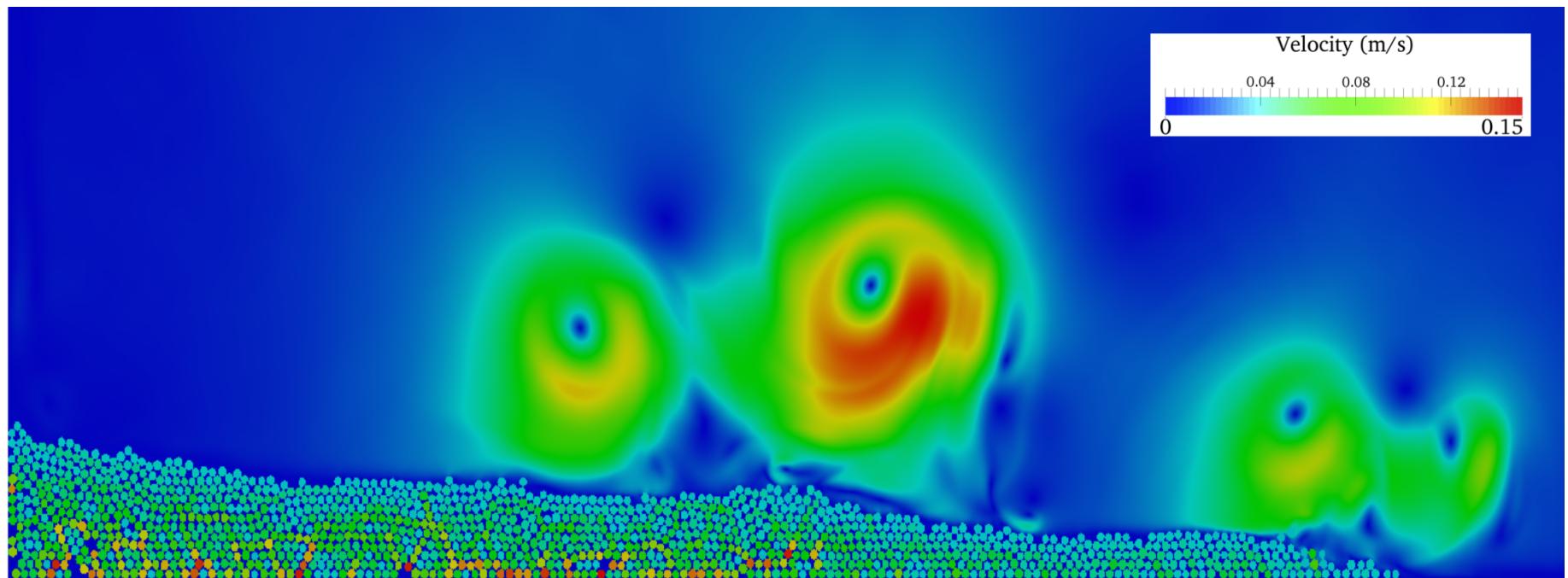
Software Sustainability Institute Fellowship - 2017
University of Manchester, 2 November 2016.

Global landslide hazard



Fatalities due to landslides, 2007 - 2013 (Nasa, 2015).

Modelling landslides and tsunamis



GPU simulation of underwater landslide using LBM-DEM.

Software development pipeline

cb-geo / felib

Code Issues Pull requests Projects Wiki Pulse Graphs Settings

FE Base Library — Edit

224 commits 3 branches 0 releases 2 contributors MIT

Branch: develop · New pull request Create new file Upload files Find file Clone or download

kks32 Merge branch 'develop' of github.com:cb-geo/felib into develop Latest commit ce2f4e9 on 13 Sep

cmake	Switched to CMake	2 months ago
external	Switched to CMake	2 months ago
include	Fixed hexa	2 months ago
src	Volume of	2 months ago
tests	Added a fe	6 months ago
.codecov.yml	Added cod	2 months ago
.gitignore	Switched t	2 months ago
.travis.yml	Switched t	2 months ago
CMakeLists.txt	Restructur	2 months ago
Doxfile	addition of	9 months ago
README.md	Update README with badges	2 months ago
appveyor.yml	Restructured test files and removed felibest from WindowsCI	2 months ago
license.md	Added MIT license	2 months ago
references.md	Fixed issues with tetrahedron quadrature - #9 and #13	6 months ago
README.md		

Finite Element Base Library (felig)

Cambridge Berkeley - Geomechanics

license MIT docx doxygen build passing CI build passing coverity passed codecov 100% issues 0

cb-geo / felib

[build](#) [passing](#)

Current Branches Build History Pull Requests

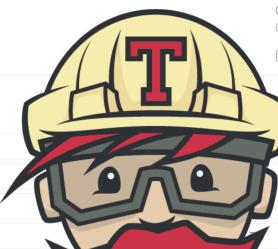
✓ **develop** Merge branch 'develop' of github.com:cb-geo/felib into develop

⌚ Commit ce2f4e0
⌚ Compare b0e2edb..ce2f4e0
👤 Krishna Kumar authored and committed

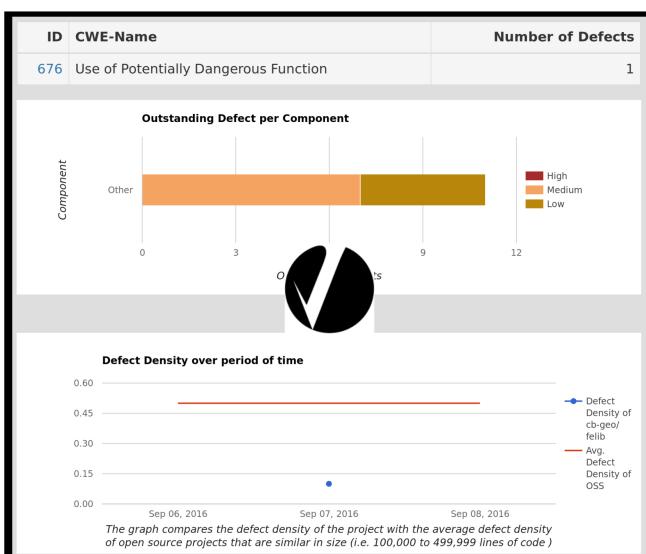
⌚ #21 passed
⌚ Elapsed time 7 min 55 sec
⌚ Total time 15 min 50 sec
⌚ 2 months ago

Build Jobs

✓ # 21.1	⌚ Compiler: gcc C++	⌚ 1 min 25 sec
✓ # 21.2	⌚ Compiler: gcc C++	⌚ 1 min 28 sec
✓ # 21.3	⌚ Compiler: clang C++	⌚ 1 min 10 sec
✓ # 21.4	⌚ Compiler: clang C++	⌚ 1 min 4 sec
✓ # 21.5	⌚ Compiler: gcc C++	⌚ 1 min 21 sec
✓ # 21.6	⌚ Compiler: gcc C++	⌚ 2 min 21 sec
✓ # 21.7	⌚ Compiler: gcc C++	⌚ 1 min 36 sec
✓ # 21.8	⌚ Compiler: clang C++	⌚ 1 min 14 sec
✓ # 21.9	⌚ Xcode: xcode7.3 C++	⌚ 2 min 33 sec
✓ # 21.10	⌚ Xcode: xcode8 C++	⌚ 1 min 38 sec



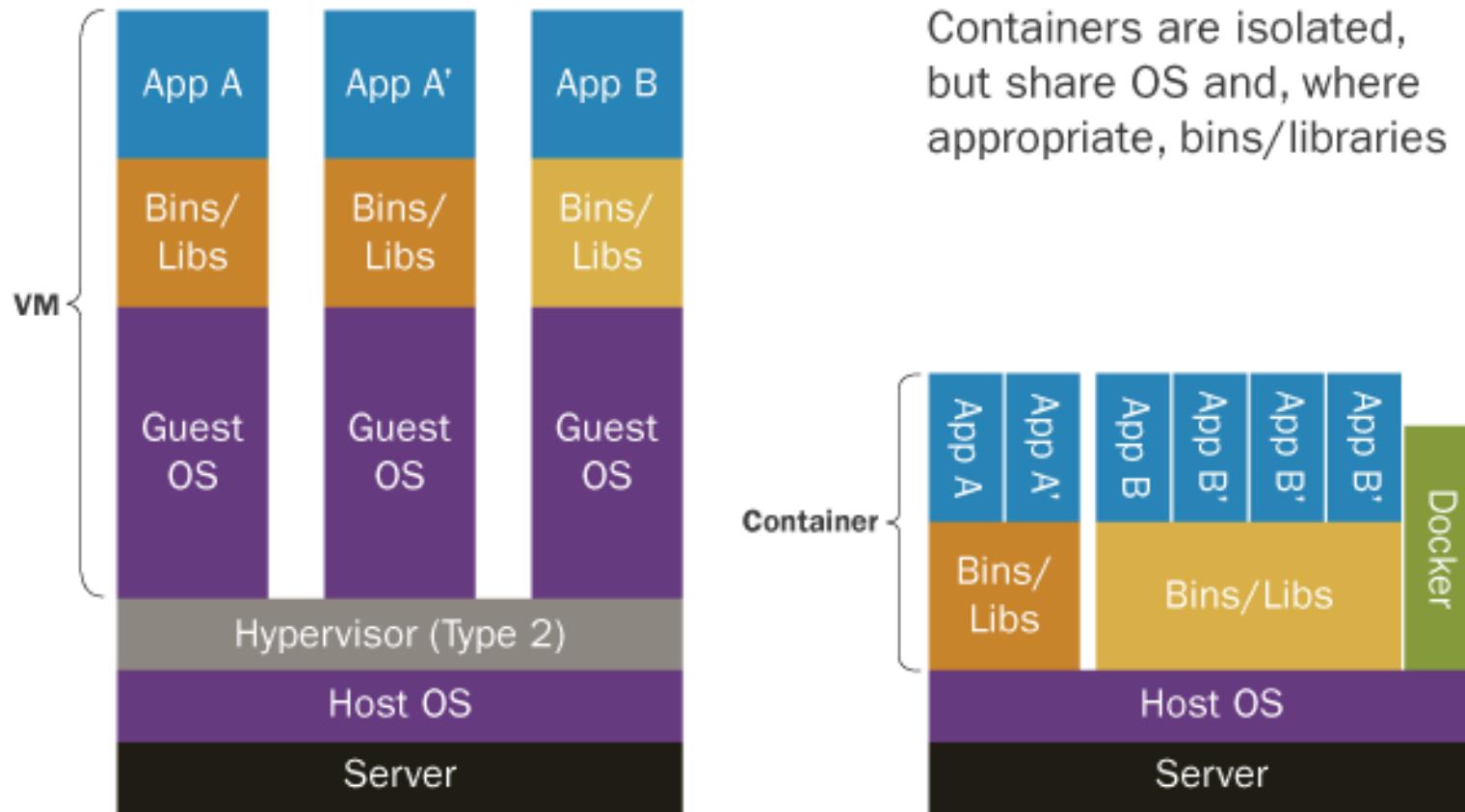
ECIAL=coverity
⌚ COMPILER=g++-5 SPECIAL=codecoverage
⌚ COMPILER=g++-5 SPECIAL=valgrind
⌚ no environment variables set
⌚ no environment variables set



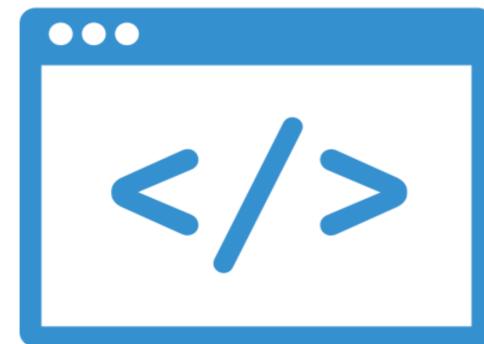
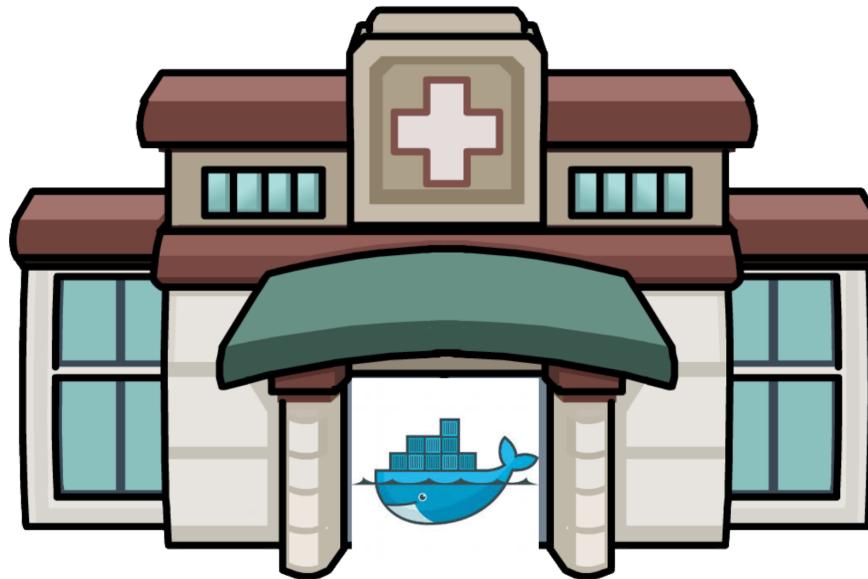
```
node base is checked for 3D case
  Node id is positive
-----[REDACTED]-----
:tests/node_base_test.cc:130
.
.
.
-----[REDACTED]-----
:tests/node_base_test.cc:152:
PASSED:
  REQUIRE( node->id() == std::numeric_limits<int>::max() )
with expansion:
  2147483647 (0x7fffffff)
  ==
  2147483647 (0x7fffffff)
```

 jenkins BOT 11:52 AM
felib - #97 Success after 4 min 28 sec ([Open](#))
Test Status:
Passed: 52, Failed: 0, Skipped: 0
FE development and master branch testing with unit tests

Research reproducability: Docker

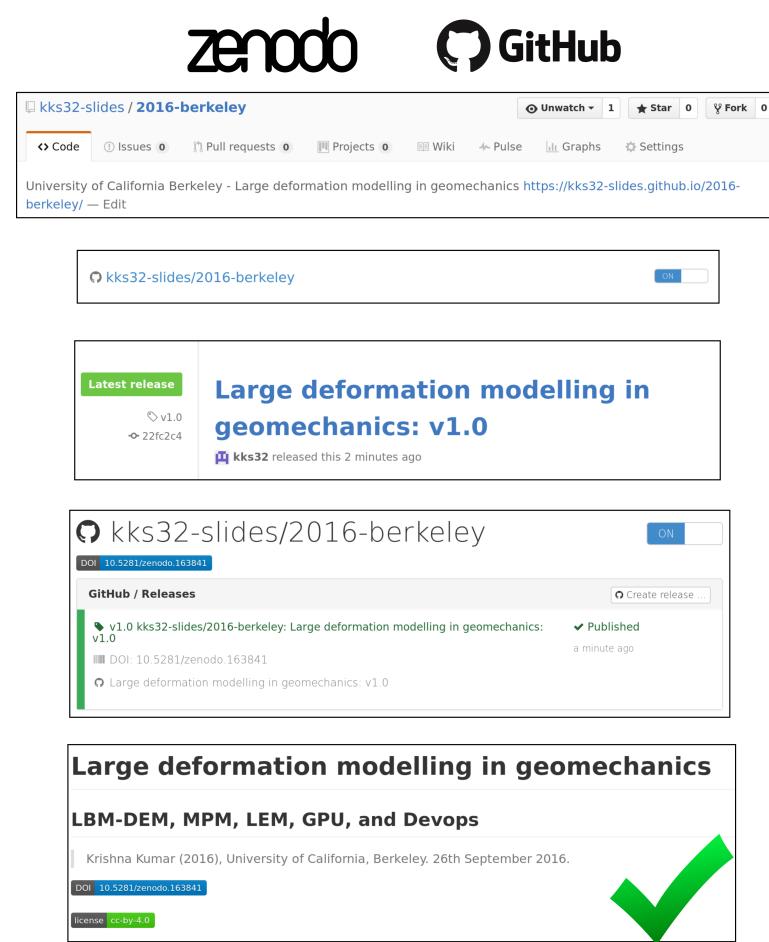


Docker surgery



SSI-approved How to Guides

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SSI Guide: How to cite and describe software

Thank you for listening!



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