

Legal Math & Deep Dive: Gerrymandering & Redistricting

Daryl DeFord

Metric Geometry and Gerrymandering Group

Unrig Summit
Nashville, TN
March 31, 2019



Our Team

- Prof. Moon Duchin
- Prof. Justin Solomon
- Ruth Buck
- Max Hully
- Voting Rights Data Institute

Tufts Math
MIT CSAIL

MGGG Geographer
MGGG Software Developer
50+ Summer Students



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- Resources:
 - mggg.org
 - github.com/{gerrymandr,mggg,mggg-states}
 - tinyurl.com/gerryprojects
 - 538 Podcast



Pennsylvania



Sooooooooo many possibilities

Process:

- Mathematical formulation of rules, units, and sampling method
- Build lots of plans!
- (in a non-partisan fashion)



Sooooooooo many possibilities

Process:

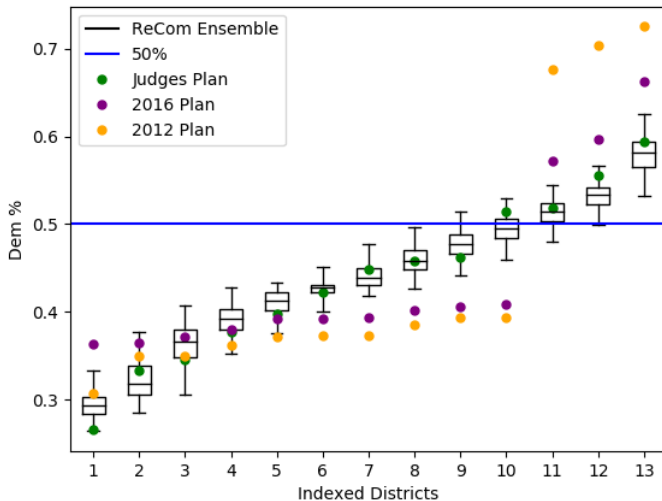
- Mathematical formulation of rules, units, and sampling method
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Application:

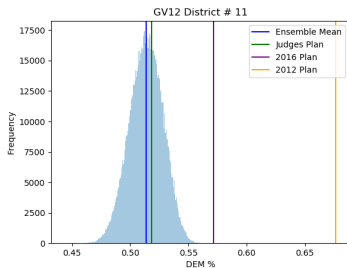
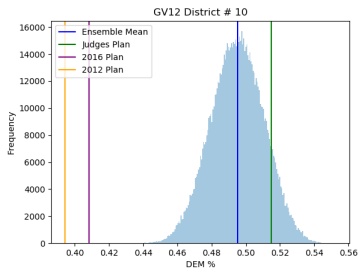
- Outlier Analysis
- Demonstration Plans
- State Baselines
 - Proposed Maps
 - Proposed Legislation



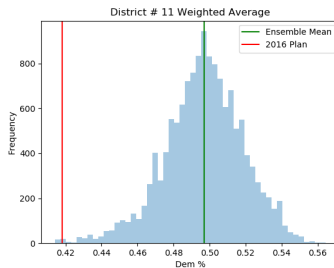
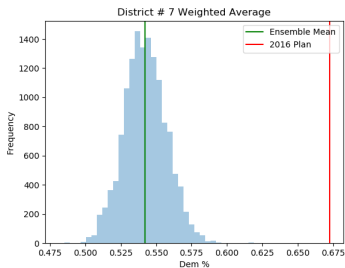
Outliers



Outliers



Outliers



Baselines



2011



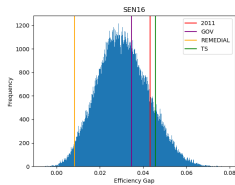
538 GOP



538 Dem



8th Grade



538 Compact



Gov



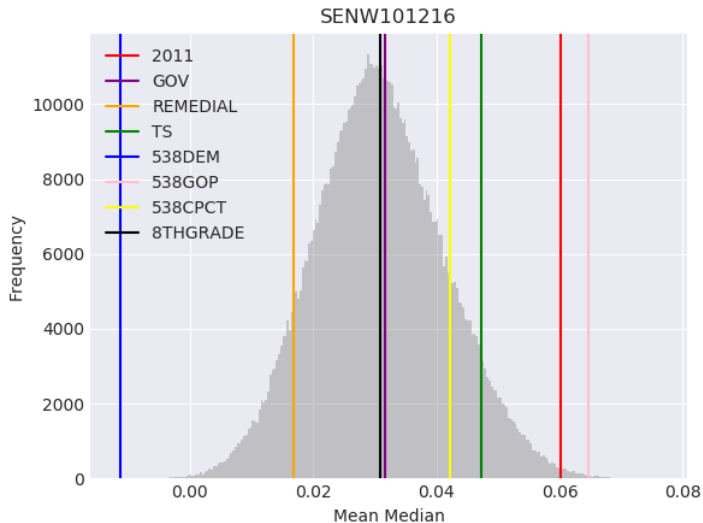
Remedial



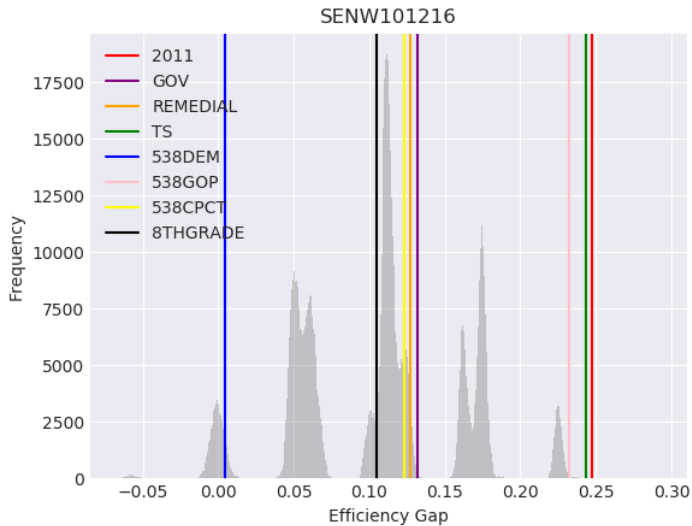
TS



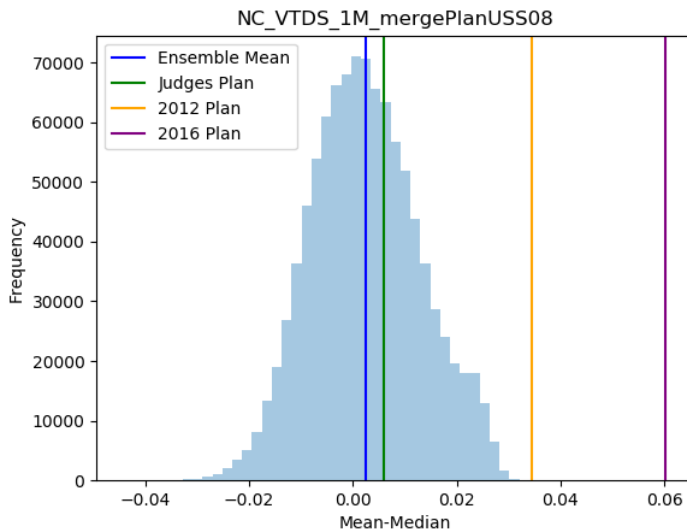
Baselines



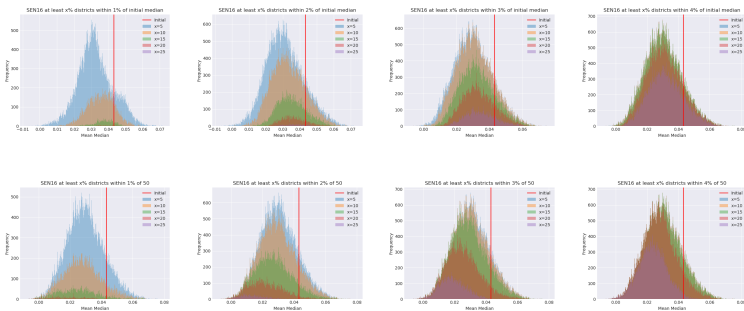
Baselines



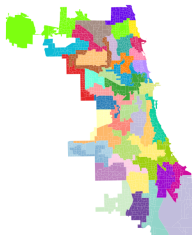
Baselines



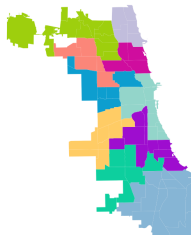
Proposed Legislation



City Councils



(a) Current plan 50x1



(b) Community Area 10x5

MORAL

Computational Redistricting is
NOT a solved problem!

