U.S. Department of Justice, Office of Justice Programs, National Institute of Justice - NIJ.gov

Real-Time Crime Forecasting Challenge

The *Real-Time Crime Forecasting Challenge* sought to harness the advances in data science to address the challenges of crime and justice. It encouraged data scientists across all scientific disciplines to foster innovation in forecasting methods. The goal was to develop algorithms that advance place-based crime forecasting through the use of data from one police jurisdiction.

The Challenge had three main aims:

1. Harness data science advances in other fields to crime forecasting.
2. Encourage scientists from all fields to consider the challenges of crime and justice.
3. Conduct the most comprehensive comparative analysis of crime forecasting software and algorithms to date.

Specifically, the Challenge tested how effectively and efficiently contestants' crime forecasting algorithms could forecast police calls-for-service in four crime categories in Portland, Oregon,[1] for five forecast periods. View the challenge posting for additional details.

Challenge Winners

The scores are in and we have our winners! Winners were selected from submissions by five students, forty-two small teams/businesses, and fifteen large business.

Download the complete leaderboard (xlsx, 56 KB)! The leaderboard includes the names and scores for first, second, and third place submissions for every category, crime type, time frame, and score type (PAI and PEI*).[2]

Download the winning submission files for students (zip, 29 MB), small teams/businesses (zip, 47.5 MB), and large businesses (zip, 50.8 MB). You also may download the Visual Basic macros that we used to determine eligibility and scores for each submission.

See the Winners!

Articles by the winners:

- Team Conduent Public Safety Solutions (pdf, 12 pages)
- Team Kernel Glitches
- PASDA (pdf, 18 pages)
- DataikuInc
- codilime
- PTL
- PASDA (pdf, 17 pages)
- Koontz (pdf, 9 pages)
- Ledray (pdf, 3 pages)
- CCC (pdf, 9 pages)

Winners by Contestant Type and Category
(See the detailed list of winners by category and timeframe)

Winner	Contestant Type	No. of Victories
Warren	Student	18^
Yurick	Student	16^
Ledray	Student	4^
Scarborough	Student	2^
TAMERZONE	Small Team/ Business	10
Intuidex	Small Team/ Business	7^^
BATES ANALYTICS	Small Team/ Business	5
TADIC	Small Team/ Business	3
pennaiken	Small Team/ Business	3
ANDY_NIJ	Small Team/ Business	2

^ Victory totals in the student category include four-way tie in both PAI and PEI* scores for the one- and two-week burglary forecasts.

^^ Multiple Small Team/Business entrants tied PEI* score in the one week forecast for burglary.

Winner	Contestant Type	No. of Victories
WILLIAM HERLANDS	Small Team/ Business	2
KUBQR1	Small Team/ Business	2
STEVEN YURICK	Small Team/Business	2
MURRAY MIRON	Small Team/ Business	2^^
DYLAN FITZPATRICK	Small Team/ Business	2^^
PTL	Small Team/Business	2^^
Center for Science and Law	Small Team/Business	1
CCC	Small Team/Business	1
AltMaps	Small Team/Business	1^^
CUDY	Small Team/Business	1^^

^ Victory totals in the student category include four-way tie in both PAI and PEI* scores for the one- and two-week burglary forecasts.

^^ Multiple Small Team/Business entrants tied PEI* score in the one week forecast for burglary.

Winner	Contestant Type	No. of Victories
GRANTHAM	Small Team/Business	1^^
KOONTZ	Small Team/Business	1^^
RAPTOR	Small Team/Business	1^^
TEAM Kernel Glitches	Large Business	9
PASDA	Large Business	9
Codilime	Large Business	8
GRIER	Large Business	5
DataikuInc	Large Business	2
JeremyHeffner	Large Business	2
IMPAQ	Large Business	2

^ Victory totals in the student category include four-way tie in both PAI and PEI* scores for the one- and two-week burglary forecasts.

^^ Multiple Small Team/Business entrants tied PEI* score in the one week forecast for burglary.

Winner	Contestant Type	No. of Victories
GARAN TANALYTICS	Large Business	1
Conduent Public Safety Solutions	Large Business	1
MARUAN ALSHEDIVAT	Large Business	1

^ Victory totals in the student category include four-way tie in both PAI and PEI* scores for the one- and two-week burglary forecasts.

^^ Multiple Small Team/Business entrants tied PEI* score in the one week forecast for burglary.

Note

[note 1] The Portland Police Bureau provided five years of calls-for-service data as a training data set. Contestants were not limited to using the CFS data, but could also use any other data set of their choosing.

The data from the Portland Police Bureau is public and as such may be used by individuals/entities for secondary data analysis for non-Challenge related topics.

Download the data.

[note 2] On December 13, 2017, the leaderboard was updated to include scores for Center for Science and Law. In affected categories, a fourth place submission and score now is included.

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