

Predicting Recidivism in Released Prisoners in the State of Iowa

James M. Irving, Ph.D.

Can Iowa State use data on
released prisoners to predict
which prisoners will return to a
life of crime?

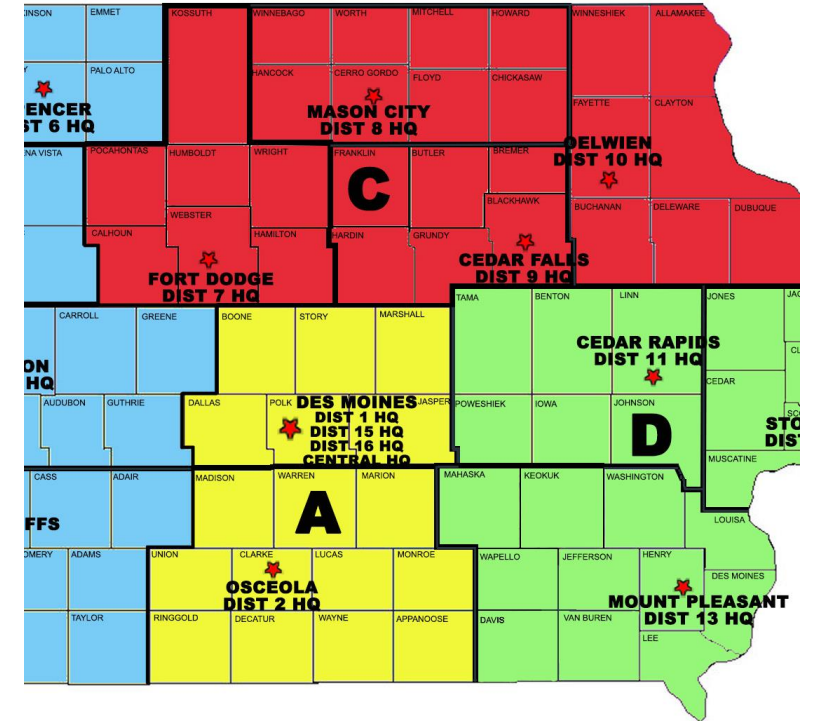
FUNDAMENTAL QUESTION

Data Source: Iowa Dept. of Corrections

Features Analyzed:

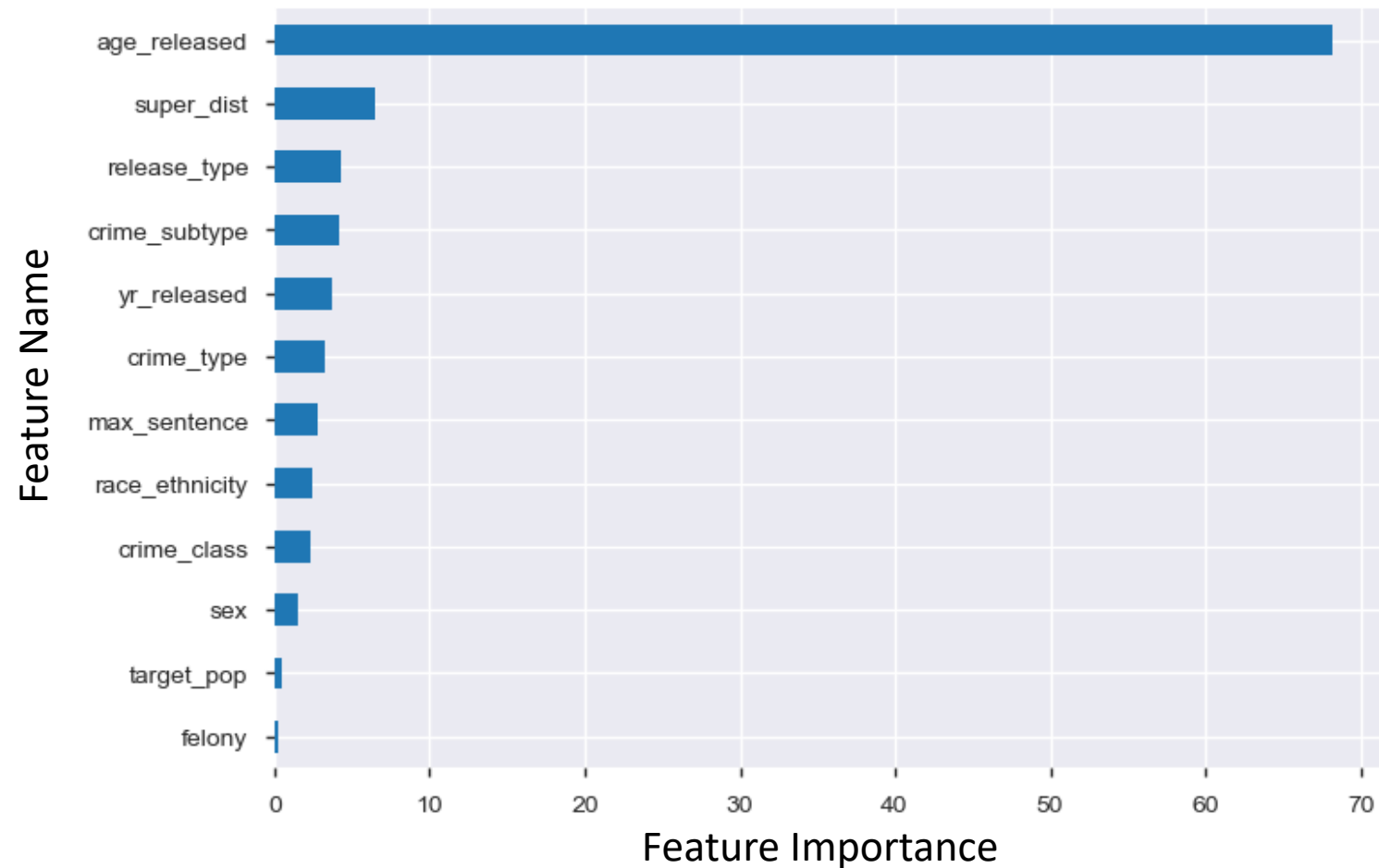
- Fiscal Year Released
- Recidivism Reporting Year
- Race - Ethnicity
- Convicting Offense Classification
- Convicting Offense Type
- Convicting Offense Subtype
- Release Type
- Main Supervising District
- Recidivism - Return to Prison
- Part of Target Population

IOWA STATE PATROL AREA MAP

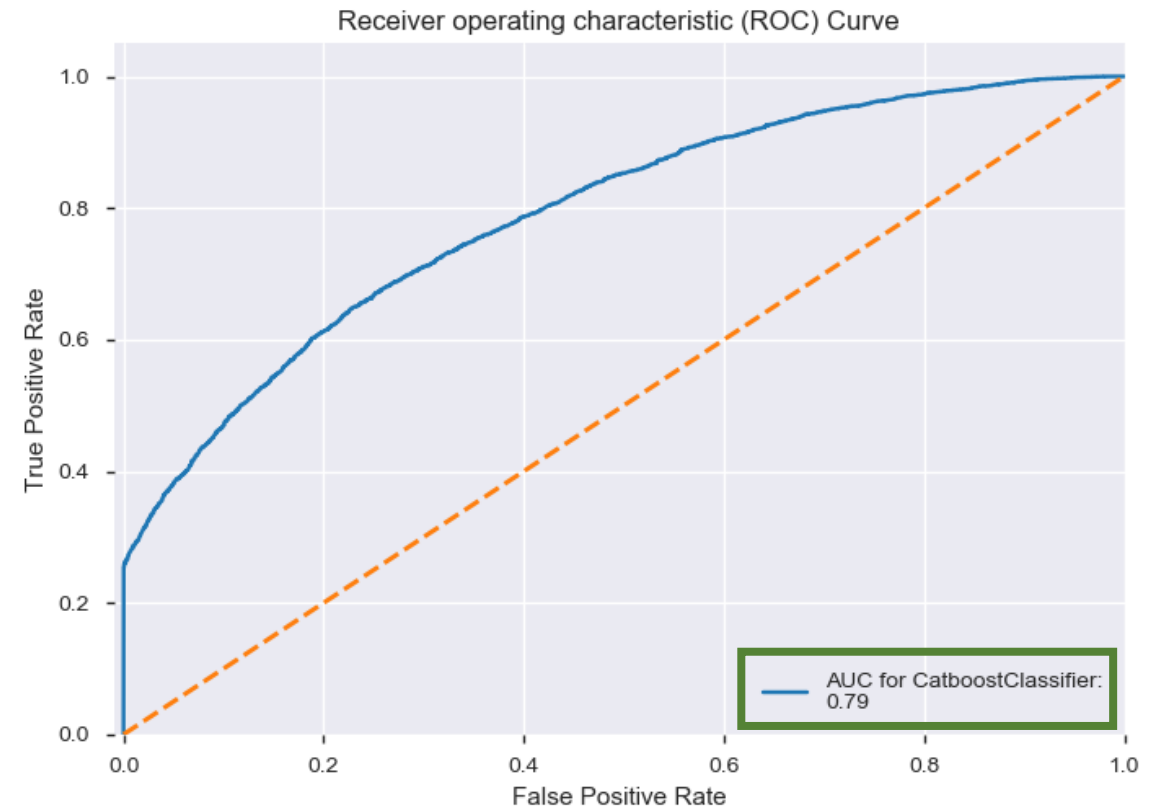
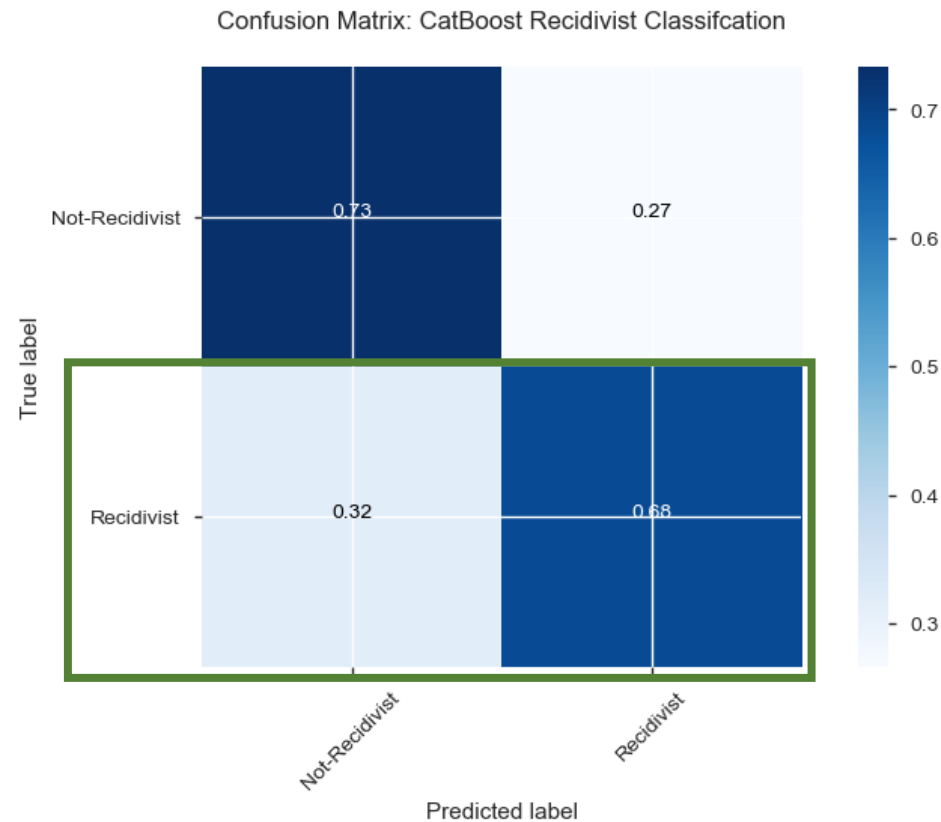


Important Features in Predicting Recidivism

- Age-At-Release Most important.
- Supervising Judicial District
- Type of Release
- Crime Subtypes



Machine Learning Model Performance



Conclusions & Recommendations

- Using our model, **Iowa Department of corrections can predict which prisoners may become recidivist.**
- Using this information, Iowa can **implement pre-release educational programs** to target at-risk prisoners.
- Following release, Iowa could also **provide post-release support and intervention** to at-risk prisoners.



THANK YOU

- Michael Moravetz – Collaborator
- Flatiron School – Data Science Bootcamp
 - Brandon Lewis – Instructor
 - Jeff Herman – Advisor
- Python Packages:
 - Cookie-Cutter Python Package
 - for Enabling BroadSteel_DataScience
 - <https://cookiecutter-pypackage.readthedocs.io/en/latest/>
 - CatBoost Machine Learning Package
 - Superior Modeling with categorical data.

