

IT UNIVERSITY OF COPENHAGEN

# Reflections in Data Science

BSREDAS1KU-20201

2020-03-24



Network depicting the Hanoi outbreak model

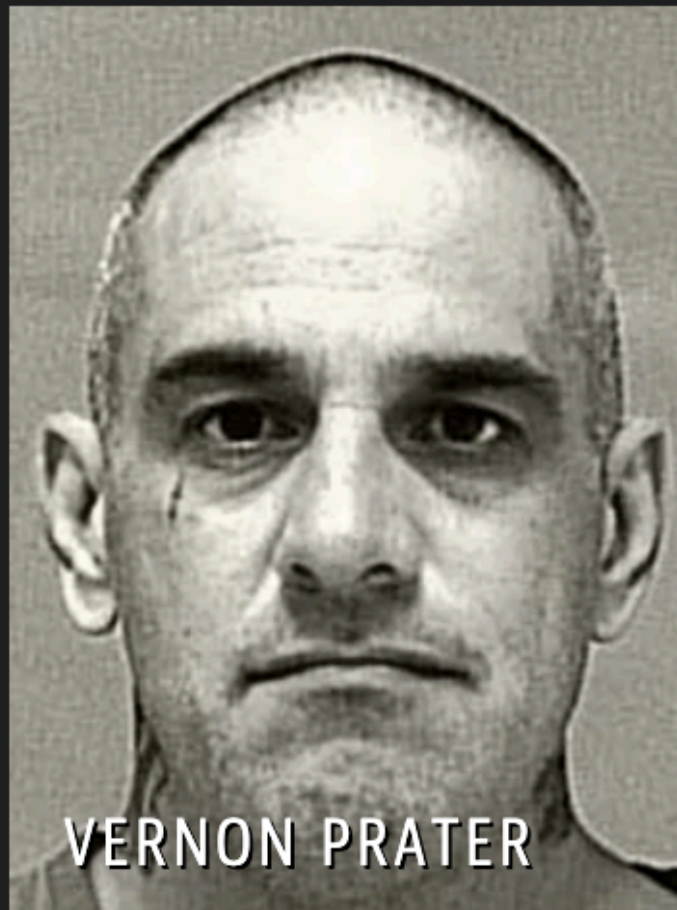
Published in Wired

## Exercise 7

Testing for unfairness - Propublica experiment (45 minutes)

# COMPAS system

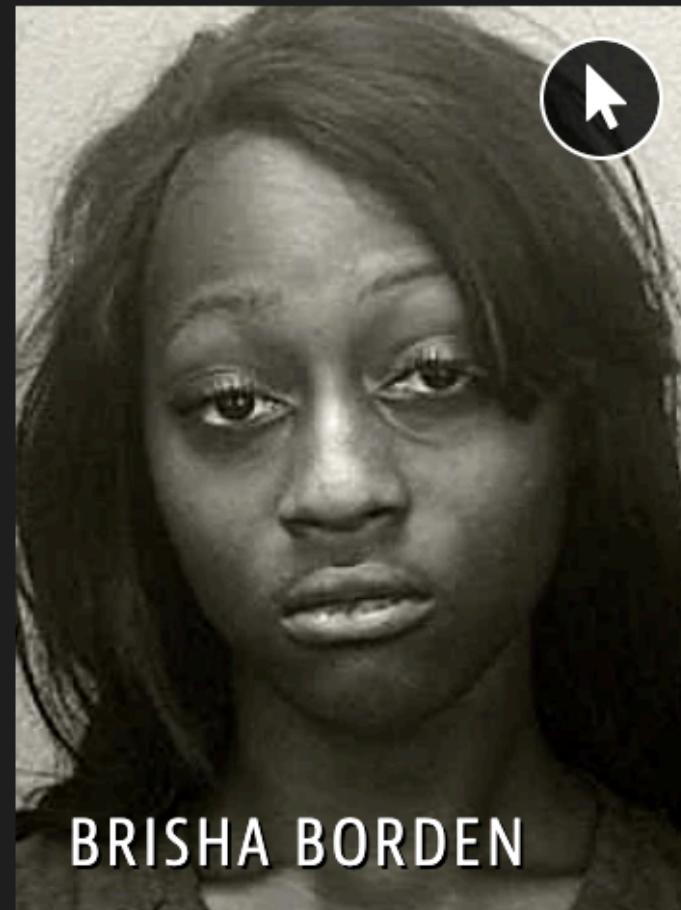
## Two Petty Theft Arrests



VERNON PRATER

LOW RISK

3



BRISHA BORDEN

HIGH RISK

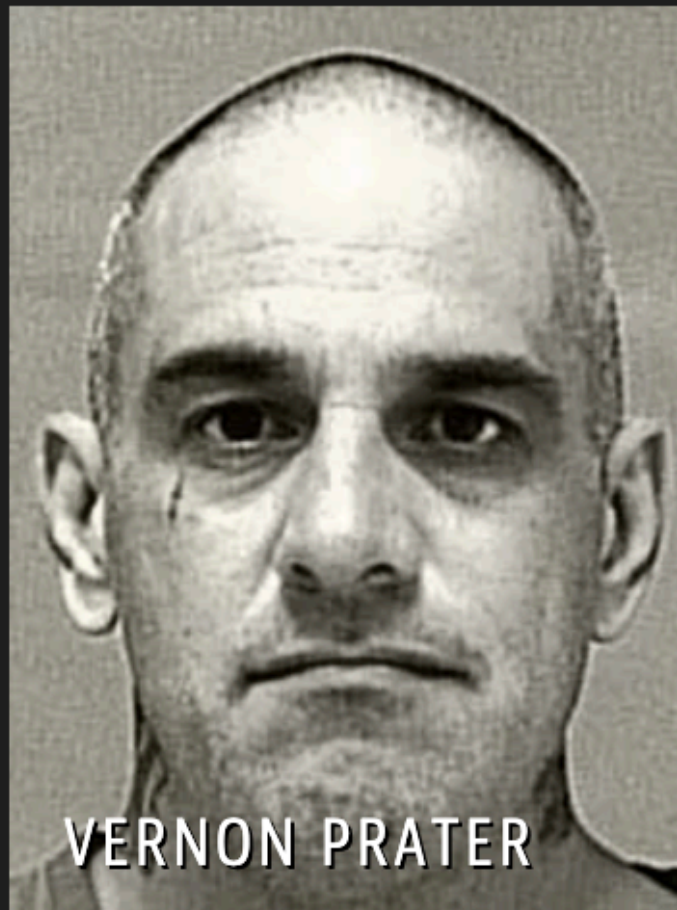
8

*Borden was rated high risk for future crime after she and a friend took a kid's bike and scooter that were sitting outside. She did not reoffend.*



# COMPAS system

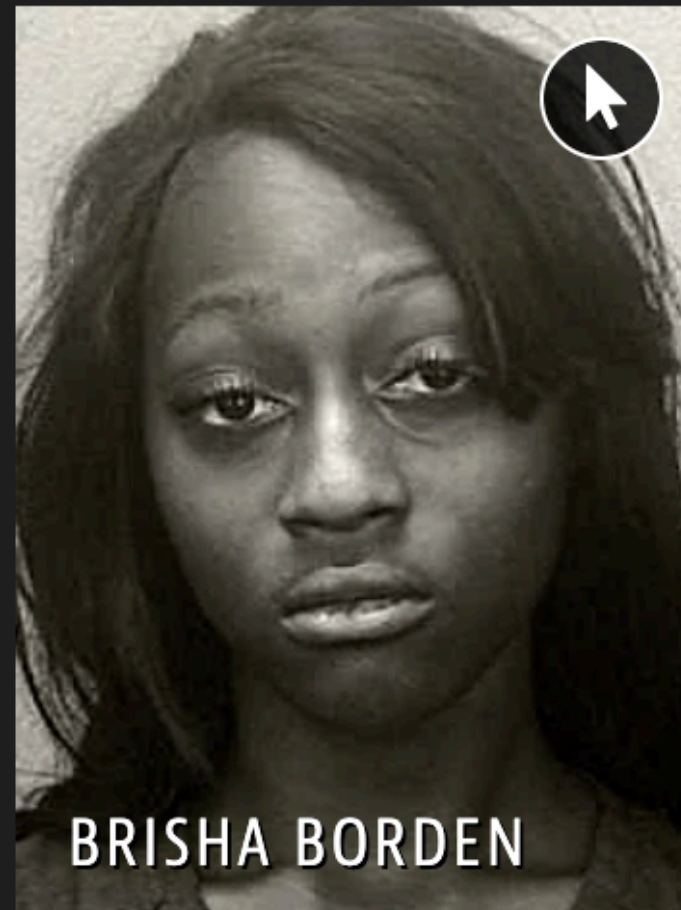
## Two Petty Theft Arrests



VERNON PRATER

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BRISHA BORDEN

HIGH RISK

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*Borden was rated high risk for future crime after she and a friend took a kid's bike and scooter that were sitting outside. She did not reoffend.*

## VERNON PRATER

### Prior Offenses

2 armed robberies, 1 attempted armed robbery

### Subsequent Offenses

1 grand theft

LOW RISK

3

## BRISHA BORDEN

### Prior Offenses

4 juvenile misdemeanors

### Subsequent Offenses

None

HIGH RISK

8

## Exercise 7

**Goal:** Understand how to test for unfairness using the COMPAS system.

**The notebook:** Contains an example of unfairness test for the risk of recidivism.

**Your task:** Understand the how the risk of recidivism was implemented and answer two questions related to violent recidivism.

## Exercise 7

**Q1:** What is the risk of violent recidivism for black defendants compared to white defendants?

**Q2:** What is the risk of violent recidivism for defendants under 25 compared to middle aged defendants?

<https://github.com/tocunha/reflectionsdatascience/tree/master/exercise7-24-03-2020>