



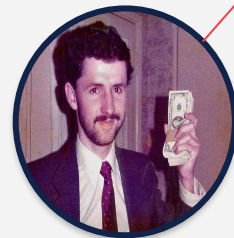
BERKELEY JOCKEY CLUB

FINAL PRESENTATION IND ENG 135
MAY 5, 2020

BACKGROUND

- Inspired by Bill Benter
- Why Hong Kong?
- \$3.5 bn in annual prize money worldwide

"The American sportswriter Roger Kahn once called the sport "animated roulette." Play for long enough, and failure isn't just likely but inevitable—so the wisdom goes."
- Bloomberg



香港賽馬會
The Hong Kong Jockey Club

RESEARCH/BACKGROUND INFO

- Fundamental Handicapping vs. Technical Betting Systems
- Pari-mutuel betting
- HKJC Race Types
- Odds
- Return/Dividends

Table 7

COMBINED MODEL VS. ACTUAL FREQUENCY
WHEN PUBLIC ESTIMATE IS LESS THAN MODEL
ESTIMATE

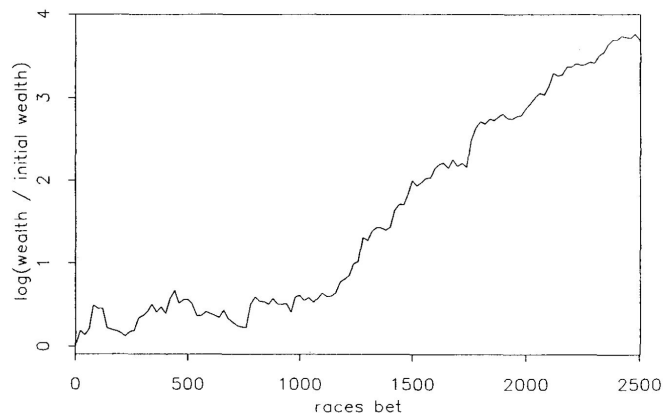
range	n	exp.	act.	Z
.000-.010	742	.007	.004	-0.9
.010-.025	2498	.018	.019	0.6
.025-.050	3488	.037	.041	1.4
.050-.100	4511	.072	.069	-0.7
.100-.150	2499	.123	.122	-0.1
.150-.200	1426	.173	.174	0.1
.200-.250	813	.223	.215	-0.5
.250-.300	500	.272	.270	-0.1
.300-.400	460	.342	.311	-1.4
>.400	199	.485	.477	-0.2

races = 3198, # horses = 17136

196

W. BENTER

RESULTS



Computer Based
Horse Race
Handicapping and
Wagering Systems
Bill Benter

2014-2017 Race Data

runs

- race_id
- horse_id
- jockey_id
- finishing_position
- . . .

(30100 x 19)

races

- track
- race_id
- race_class
- track_condition
- . . .

(2300 x 12)

[27100 x 95]

- race day information
- historical performance
- conditional hist. performance
- comparative performance
- performance trends

DATA ARCHITECTURE

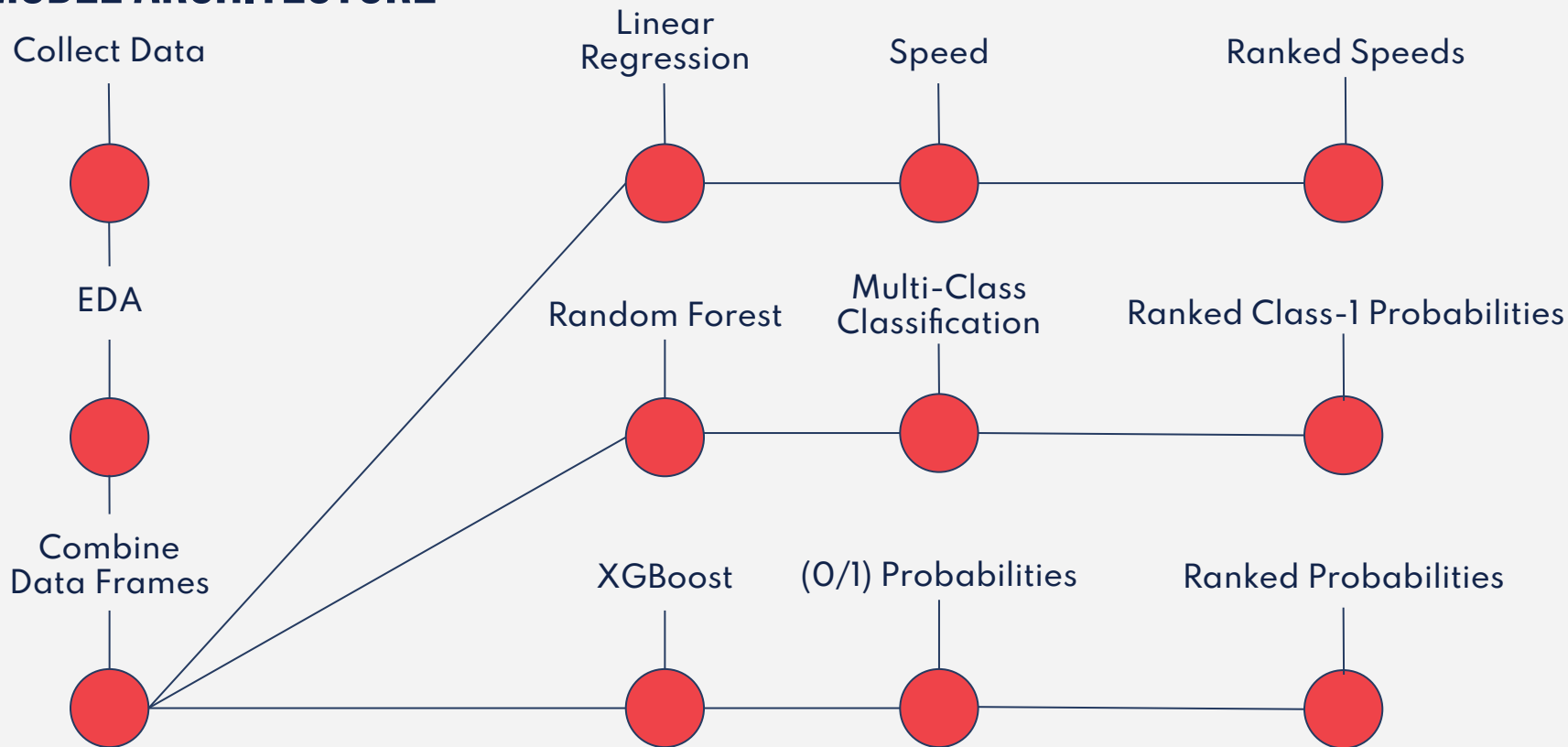
Historical Race Data

race_history_scraped

- race_id
- date
- draw
- finishing_position
- gear
- weight
- horse_id
- . . .

(55800 x 22)

MODEL ARCHITECTURE

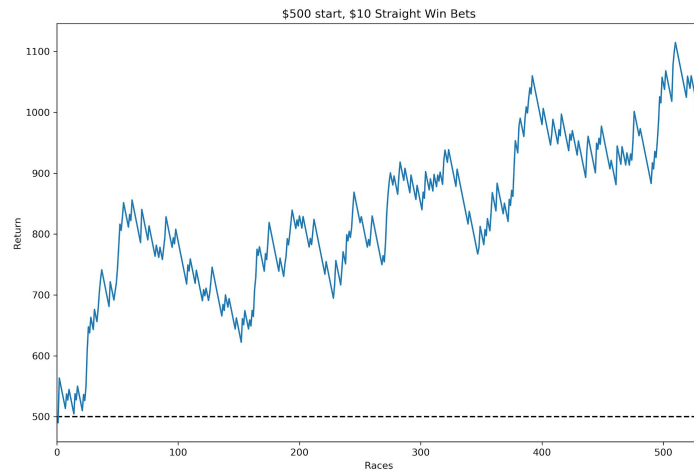
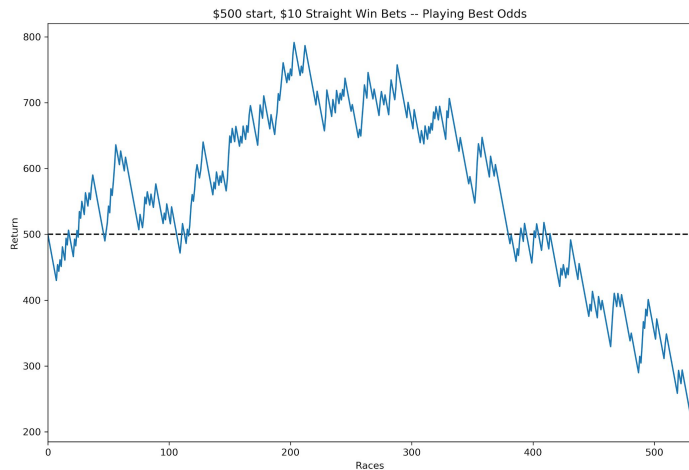
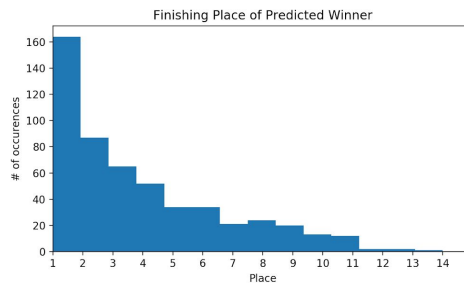
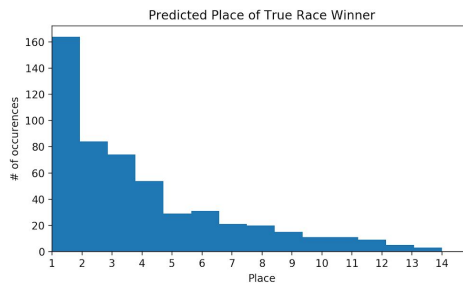


MODEL VARIATIONS: RANDOM FOREST

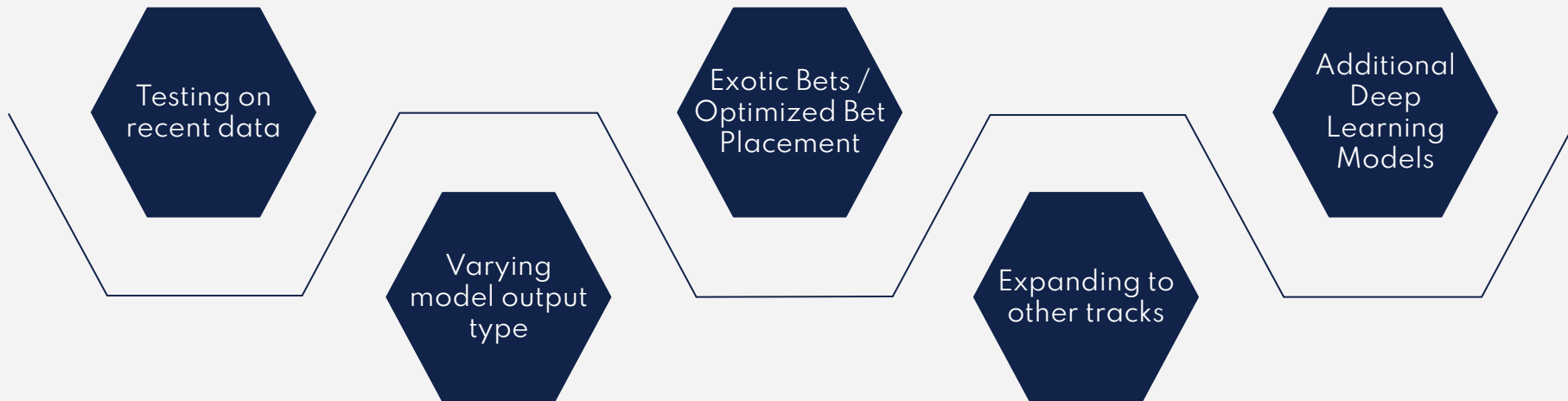
```
RandomForest (  
    n_estimators = 500,  
    max_depth = 20,  
    criterion = 'gini')
```

Training_accuracy = .99811

Testing_accruacy = .30131



LOOKING FORWARD: FUTURE OPPORTUNITIES



THANK YOU

QUESTIONS?