
People
Kun Zhang
Qiang Guo
Shangyu Zhang
WenXiao Xiao
Zijie Wu
INTRODUCTION
Feature Engineering
Model Selection
CS126/TODO
DEC 3rd 2018
Path
Conclusion
Q & A
Thank You

People

Kun Zhang

Qiang Guo

Shangyu Zhang

WenXiao Xiao

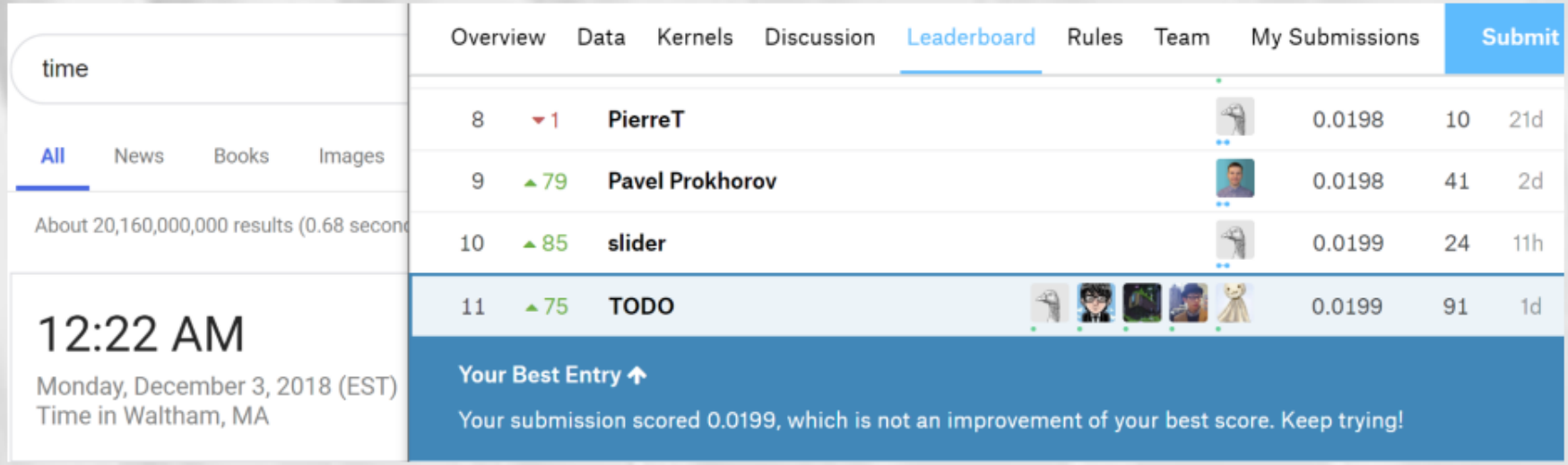
Zijie Wu


INTRODUCTION

Outline

Brief Introduction

Ranking


time
All
News
Books
Images
About 20,160,000,000 results (0.68 secon
12:22 AM
Monday, December 3, 2018 (EST)
Time in Waltham, MA
Overview
Data
Kernels
Discussion
Leaderboard
Rules
Team
My Submissions
Submit
8 ▼1 PierreT 0.0198 10 21d
9 ▲79 Pavel Prokhorov 0.0198 41 2d
10 ▲85 slider 0.0199 24 11h
11 ▲75 TODO 0.0199 91 1d
Your Best Entry ↑
Your submission scored 0.0199, which is not an improvement of your best score. Keep trying!

Division

Path 1 Build From Scratch(Qiang, Shangyu, Zijie)

Path 2 Stand on the giant's shoulders(Kun and Wenxiao)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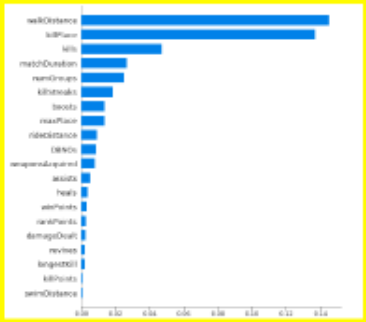
Feature Engineering

Drop or fill null

Sometimes simply drop record with null will make result better, sometimes fill null value will go further

Feature Importance



More Features, better result

set the group aggregation features for every match

maxPlace

Drop the match with only one or no player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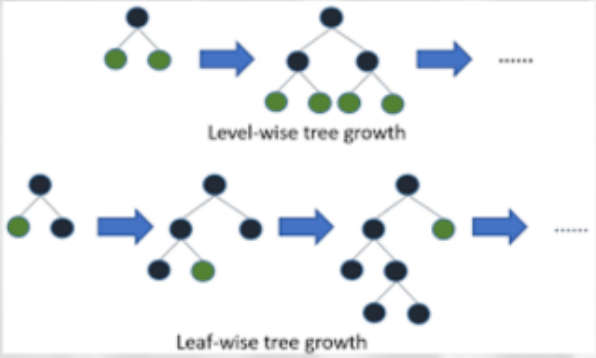
Model Selection

Neural Network



Ensemble:

Random Forest, LightGBM, Xgboost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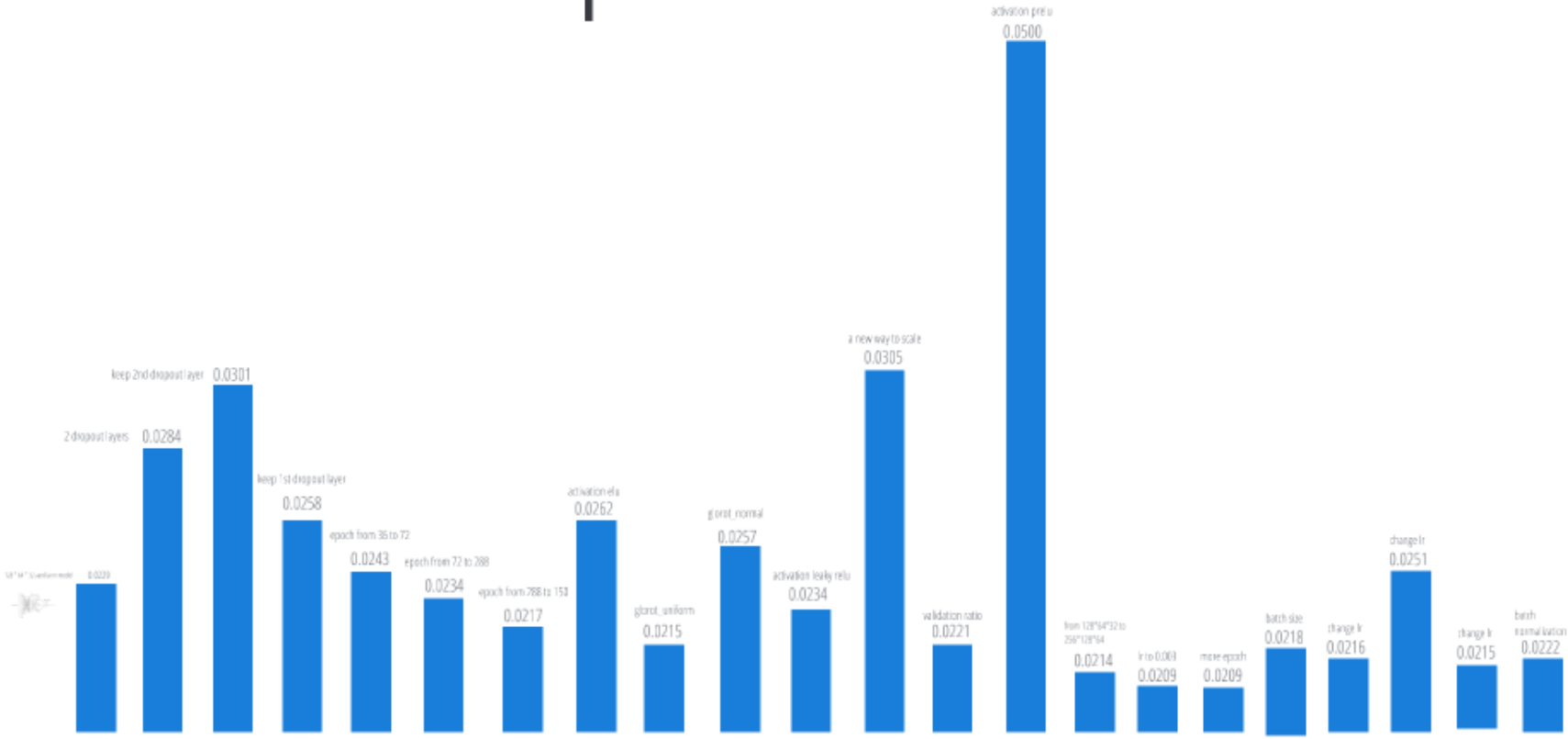
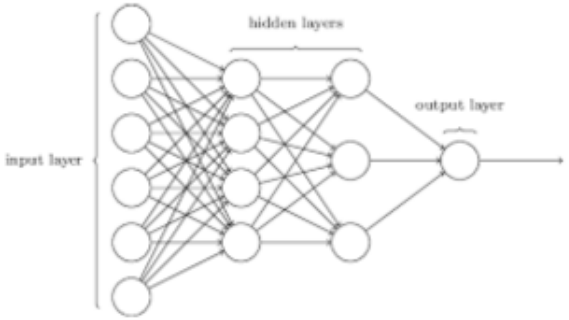
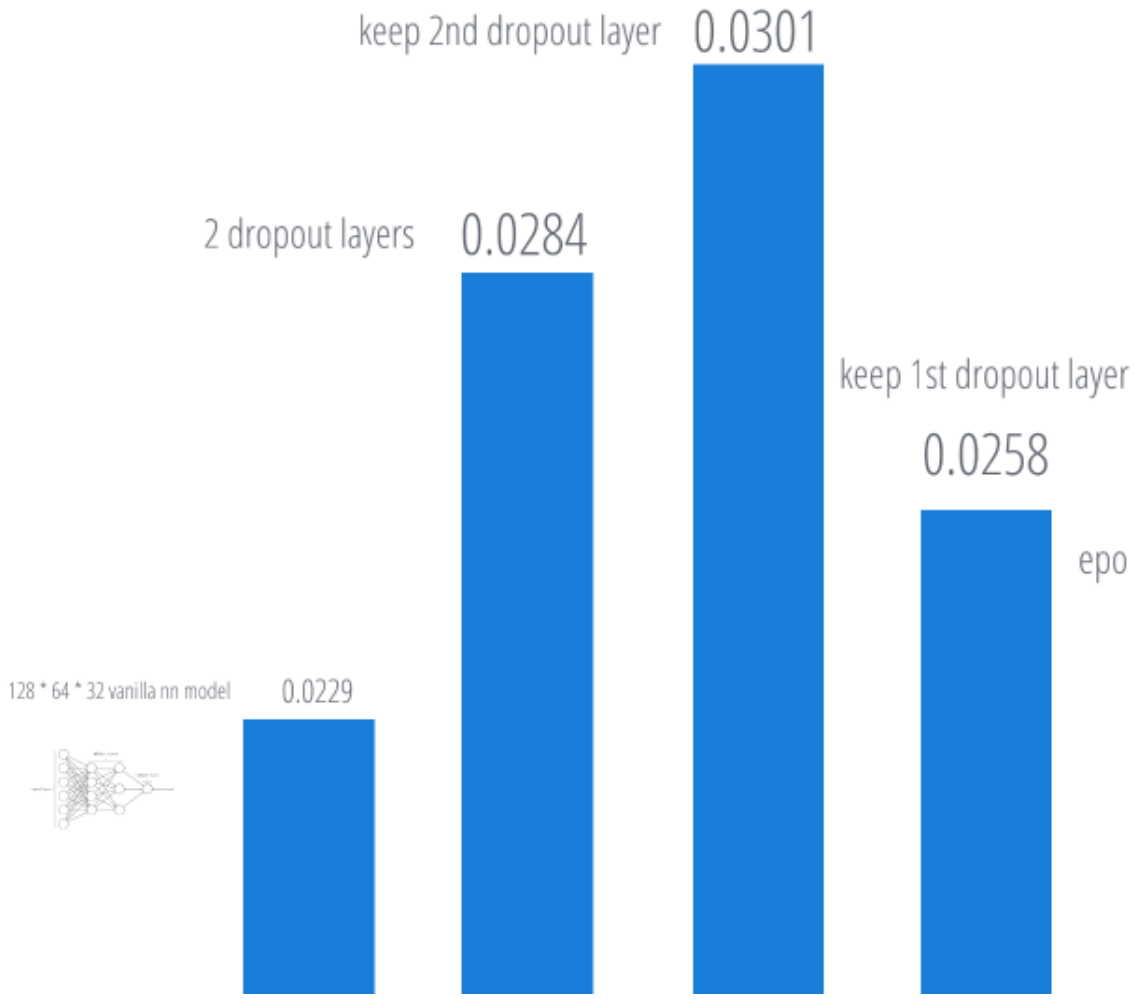
Path 1: Build from scratch

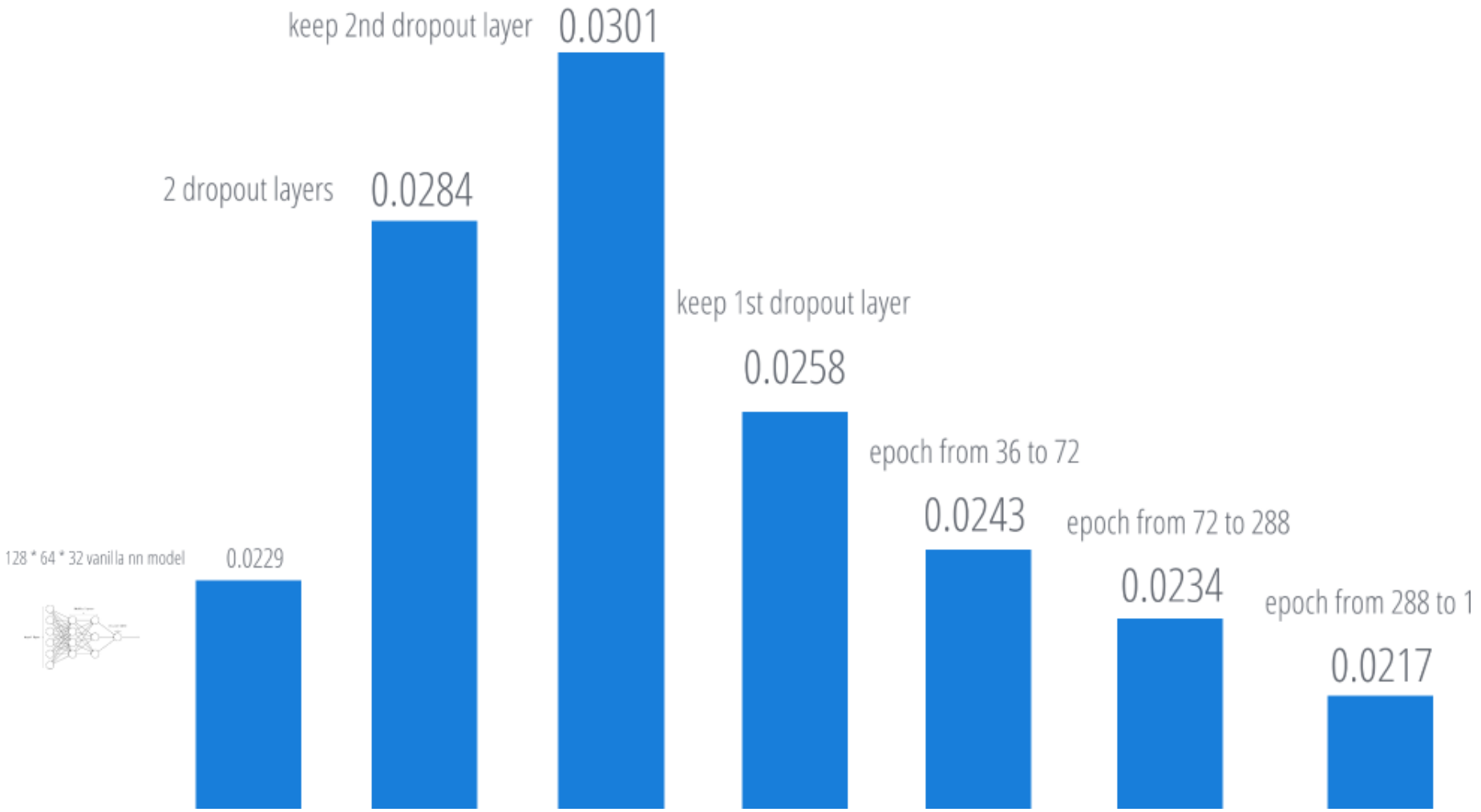


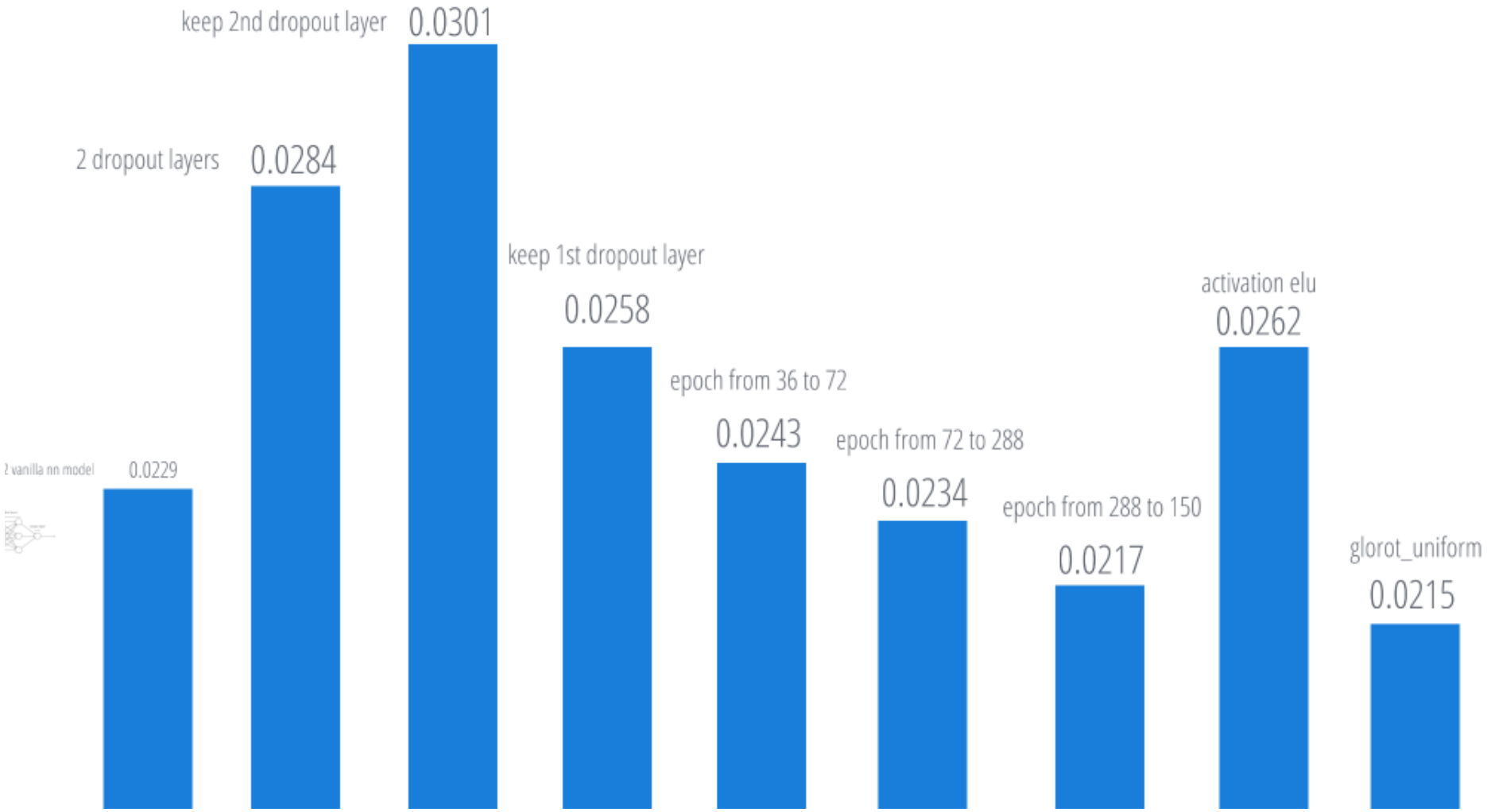
128 * 64 * 32 vanilla nn model

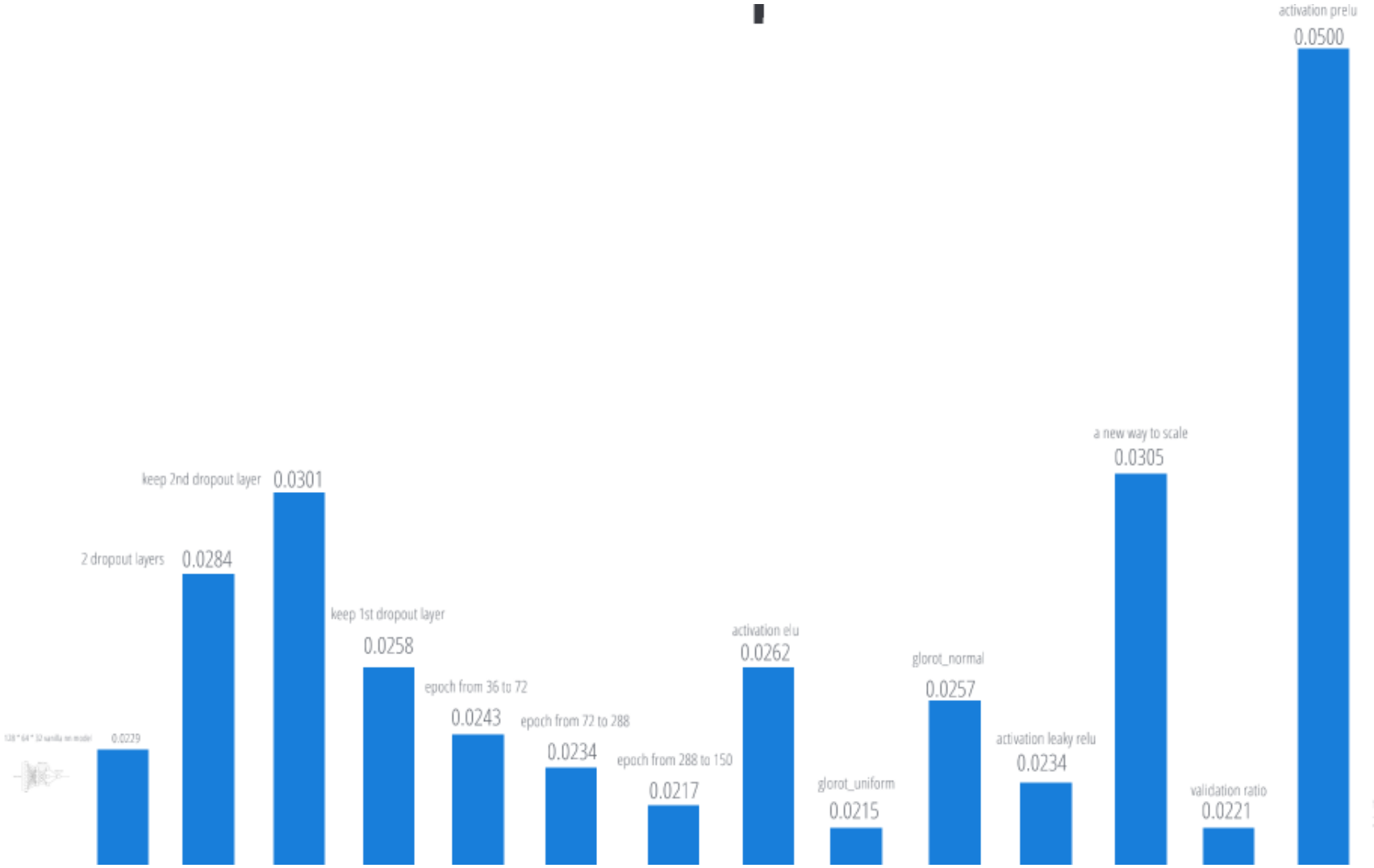
0.0229

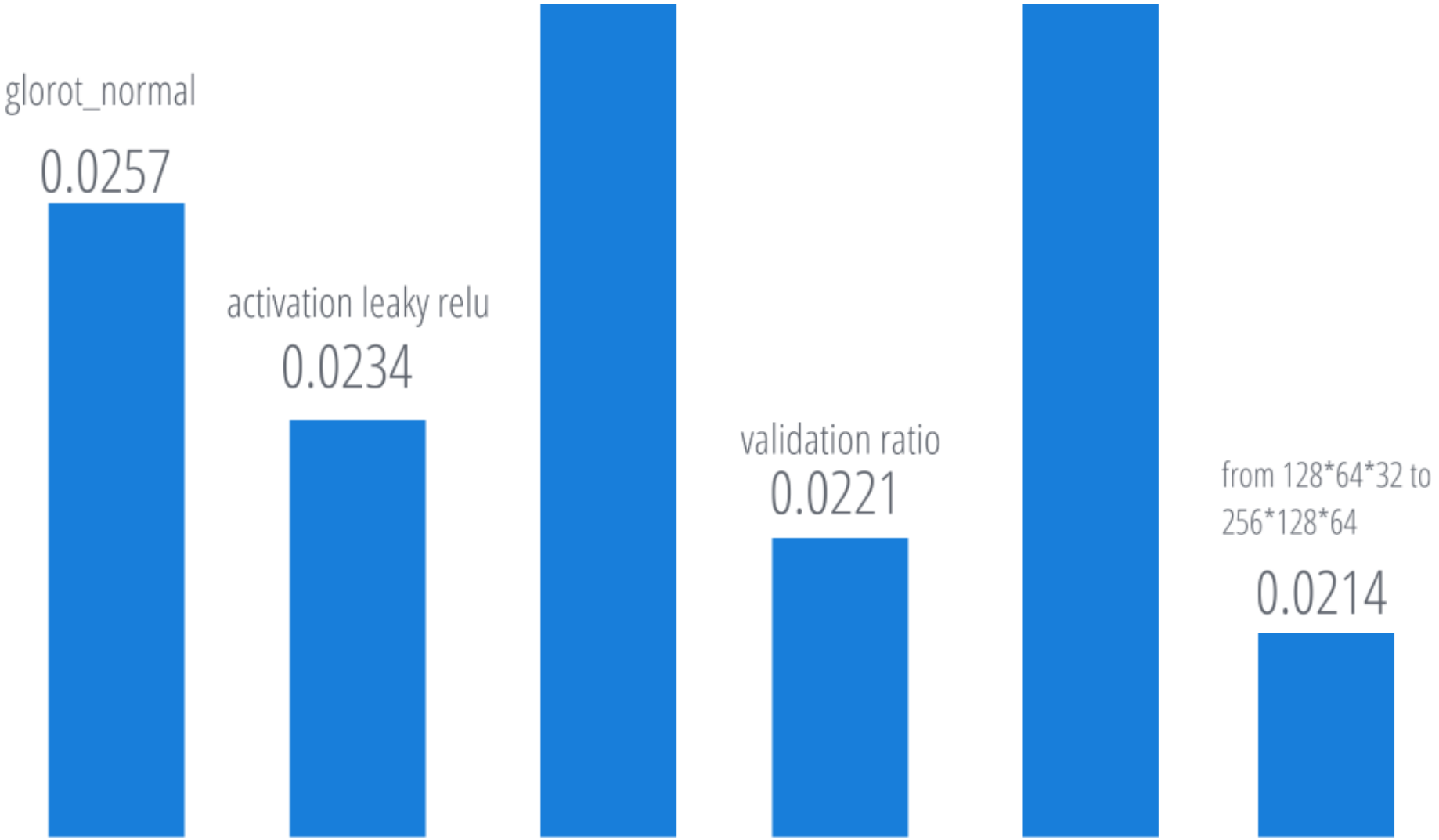


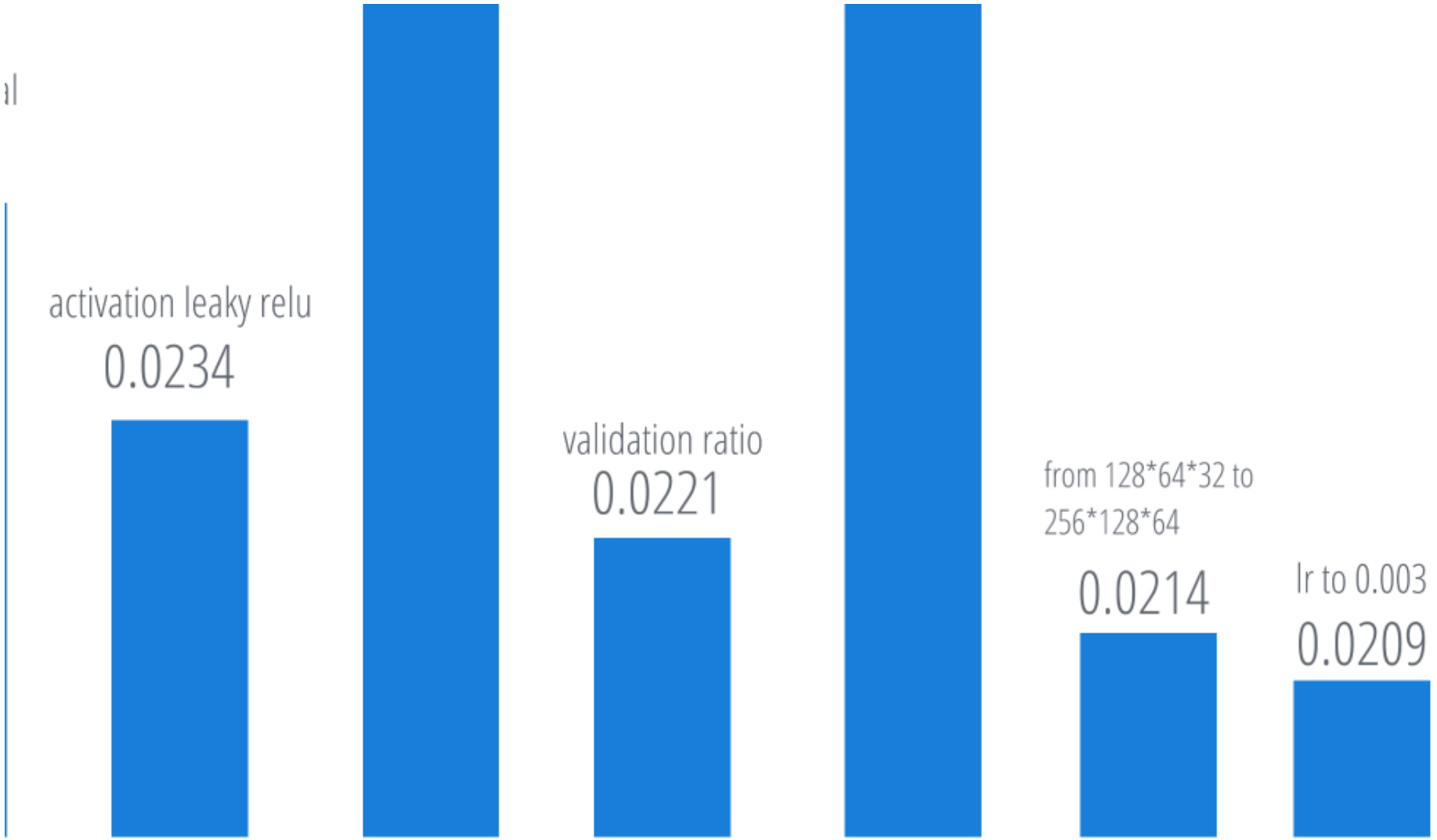

keep 2nd dropout layer
0.0301
2 dropout layers
0.0284
keep 1st dropout layer
0.0258
epo
128 * 64 * 32 vanilla nn model
0.0229

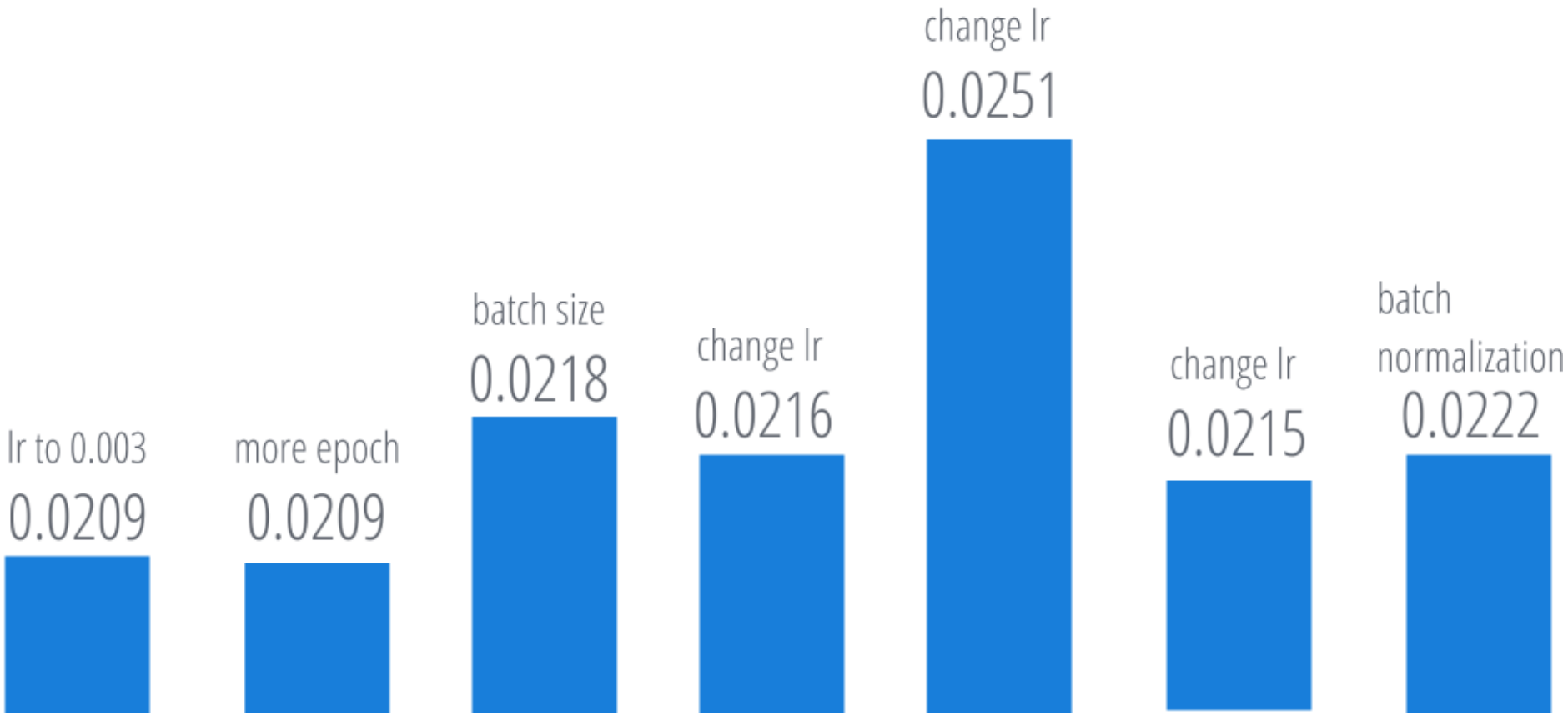

keep 2nd dropout layer
0.0301
2 dropout layers
0.0284
keep 1st dropout layer
0.0258
epoch from 36 to 72
0.0243
epoch from 72 to 288
0.0234
epoch from 288 to 1
0.0217
128 * 64 * 32 vanilla nn model
0.0229


2 vanilla nn model
0.0229
2 dropout layers
0.0284
keep 2nd dropout layer
0.0301
keep 1st dropout layer
0.0258
epoch from 36 to 72
0.0243
epoch from 72 to 288
0.0234
epoch from 288 to 150
0.0217
activation elu
0.0262
glorot_uniform
0.0215

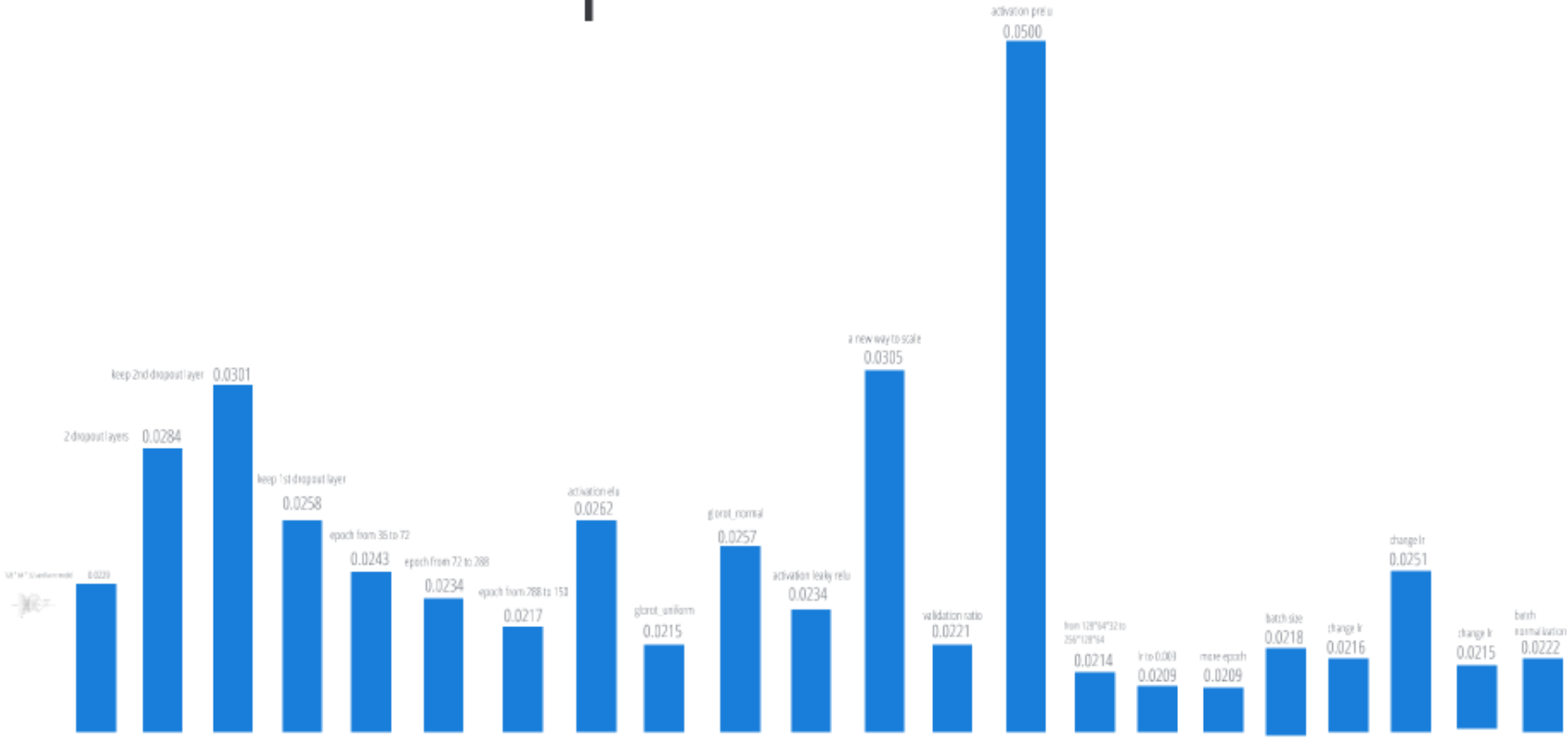

0.0229
2 dropout layers
0.0284
keep 2nd dropout layer
0.0301
keep 1st dropout layer
0.0258
epoch from 36 to 72
0.0243
epoch from 72 to 288
0.0234
epoch from 288 to 150
0.0217
activation elu
0.0262
glorot_uniform
0.0215
glorot_normal
0.0257
activation leaky relu
0.0234
a new way to scale
0.0305
validation ratio
0.0221
activation prelu
0.0500


glorot_normal
0.0257
activation leaky relu
0.0234
validation ratio
0.0221
from 128*64*32 to
256*128*64
0.0214

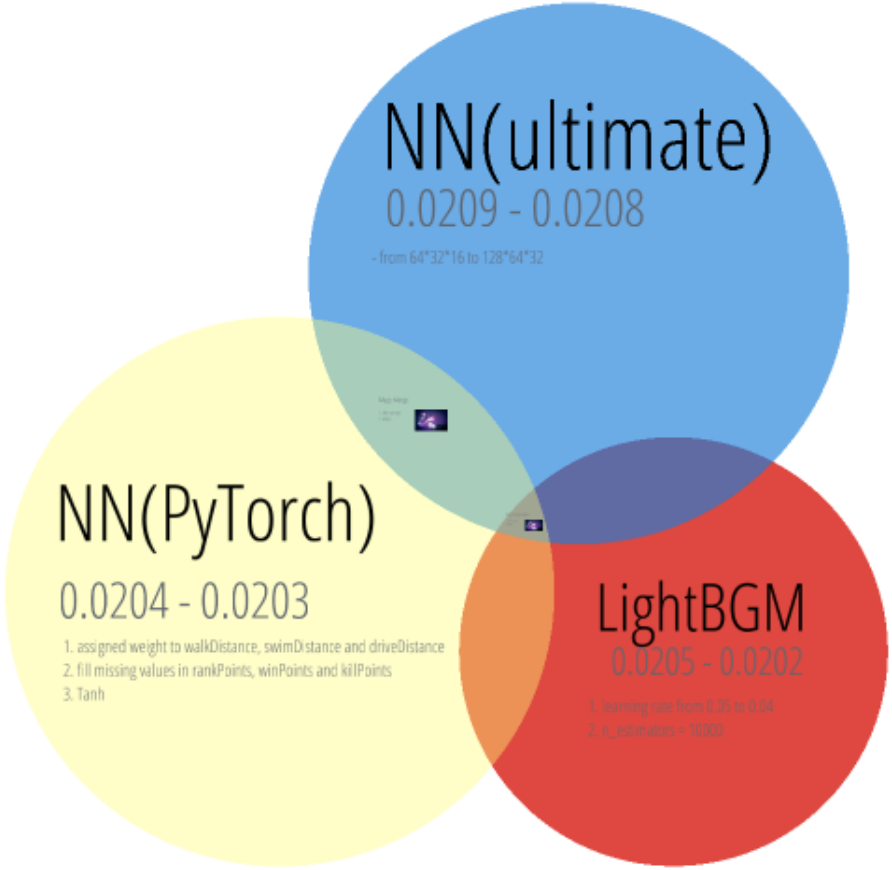

activation leaky relu
0.0234
validation ratio
0.0221
from 128*64*32 to
256*128*64
0.0214
lr to 0.003
0.0209


lr to 0.003
0.0209
more epoch
0.0209
batch size
0.0218
change lr
0.0216
change lr
0.0251
change lr
0.0215
batch normalization
0.0222

Path 1: Build from scratch



Path 2: Stand on Giant's Shoulders



NN(PyTorch)

0.0204 - 0.0203

1. assigned weight to walkDistance, swimDistance and driveDistance
2. fill missing values in rankPoints, winPoints and killPoints
3. Tanh

NN(ultimate)

0.0209 - 0.0208

- from 64*32*16 to 128*64*32

LightBGM

0.0205 - 0.0202

1. learning rate from 0.05 to 0.04
2. n_estimators = 10000

Magic Merge

1. take average
2. adjust

Magic Merge Again

1. take average
2. adjust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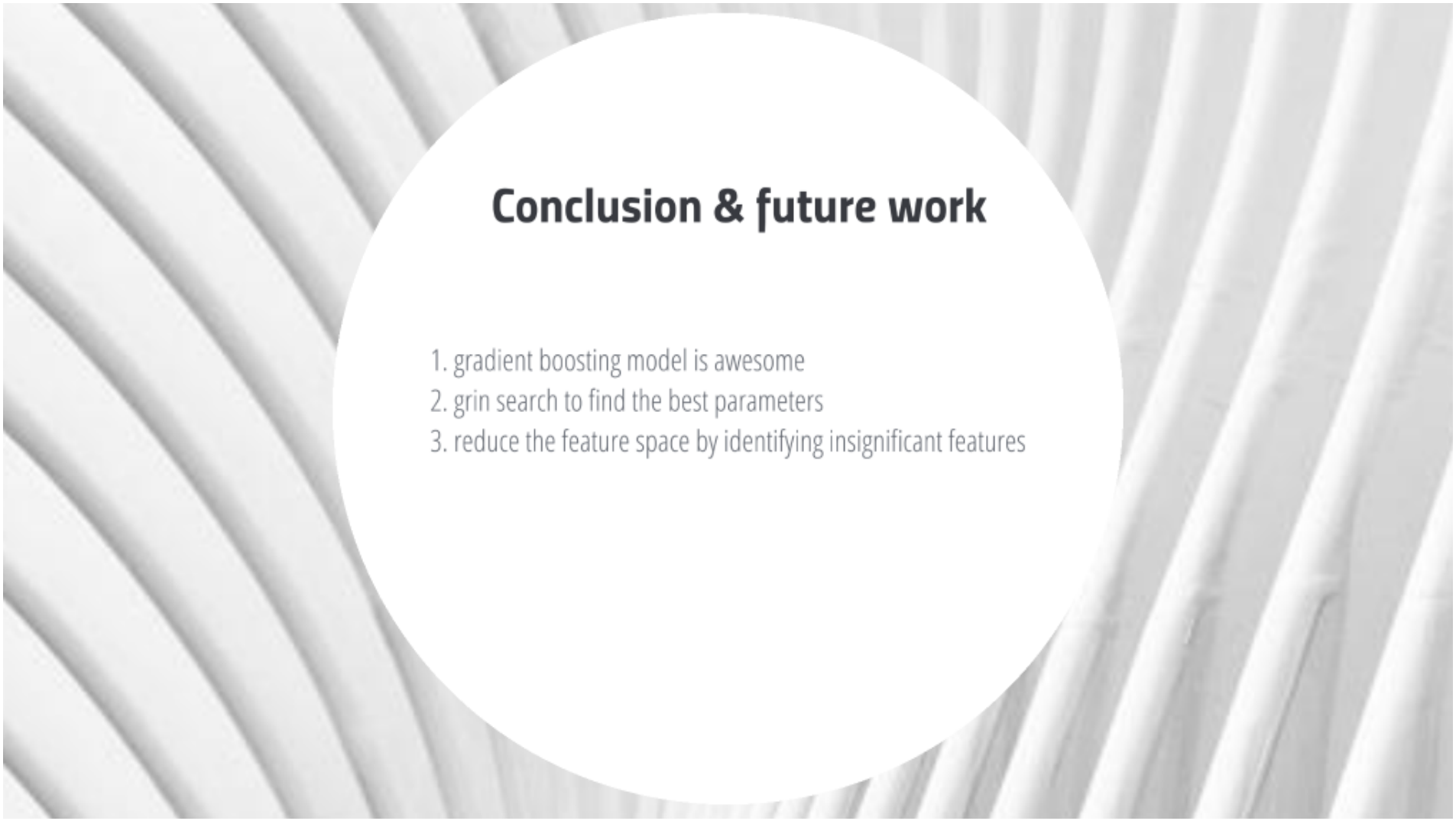
Conclusion & future work
1. gradient boosting model is awesome
2. grin search to find the best parameters
3. reduce the feature space by identifying insignificant features


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