Laborbuch AI

Struktur

In Folgendem sind alle Models aufgeführt, die wir für die SenseBox AI getestet und trainiert haben. Es wird zuerst die Architektur des Models, d.h. die Kombination der Layer, aufgeführt. Dann folgt die durchschnittliche Abweichung der vorhergesagten Höhen von den Testdaten, und anschließend eine Grafik, in der das Model auf das Datenset 'Fahrt' angewandt wird.

Model 0

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)             40
 ormalization)

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110

 dropout_1 (Dropout)         (None, 10)                0

 batch_normalization_1 (Batc  (None, 10)             40
 hNormalization)

 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 batch_normalization_2 (Batc  (None, 10)             40
 hNormalization)

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110
```

```
 dropout_3 (Dropout)          (None, 10)                0

 batch_normalization_3 (Batc  (None, 10)                40
 hNormalization)

 activation_3 (Activation)    (None, 10)                0

 dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

24.566537857055664m

Daten 2022-05-03-0004-VG mit Model ausgewertet

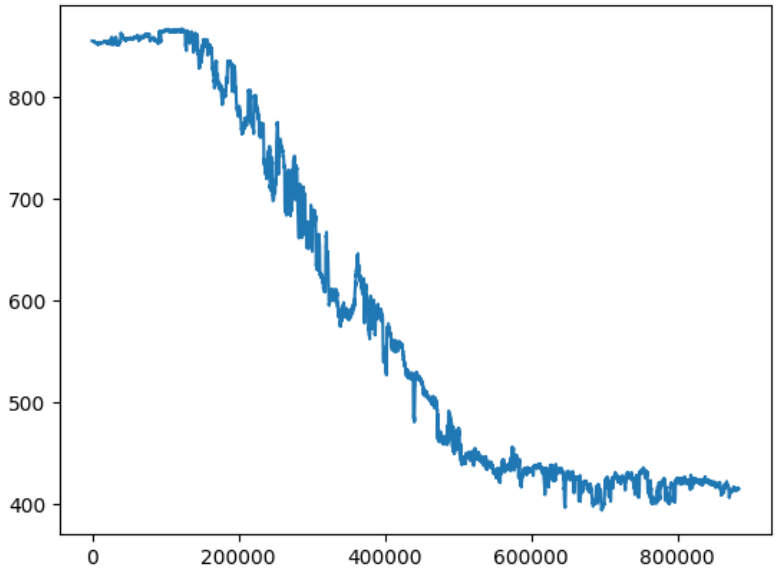

Figure 1: 0.png

Model 1

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

151.09603881835938m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 2

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110
```

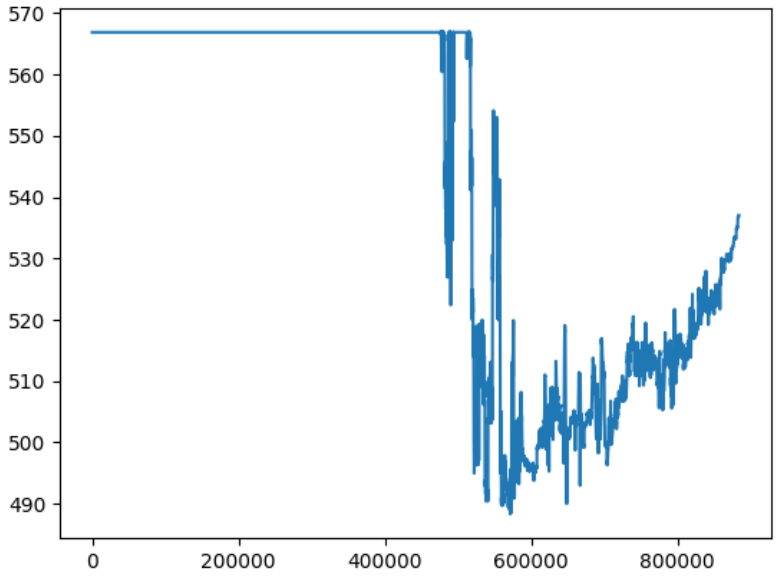

Figure 2: 1.png

```
 dropout_1 (Dropout)         (None, 10)                0

 batch_normalization_1 (Batc  (None, 10)               40
 hNormalization)

 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 batch_normalization_2 (Batc  (None, 10)               40
 hNormalization)

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110

 dropout_3 (Dropout)         (None, 10)                0

 batch_normalization_3 (Batc  (None, 10)               40
 hNormalization)

 activation_3 (Activation)   (None, 10)                0

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

50.0474739074707m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 3

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
```

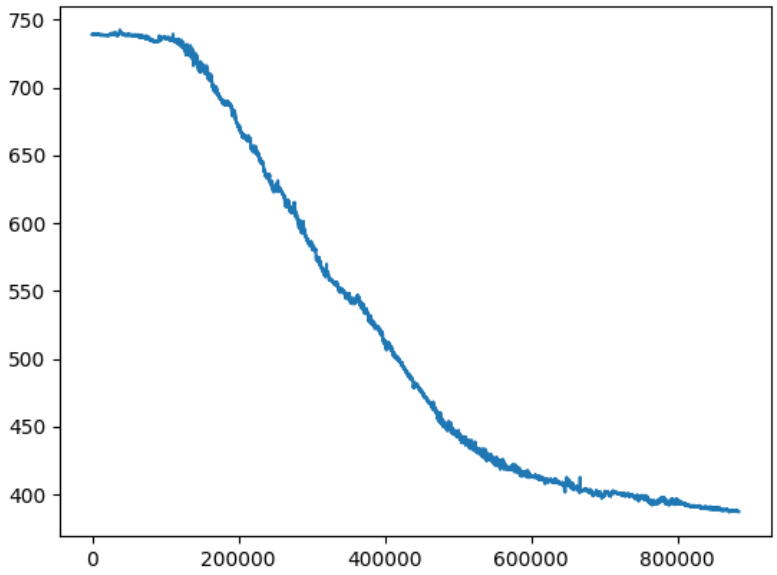

Figure 3: 38.png

```
=================================================================
 dense (Dense)               (None, 20)                100

 dense_1 (Dense)             (None, 15)                315

 dense_2 (Dense)             (None, 10)                160

 dense_3 (Dense)             (None, 5)                 55

 dense_4 (Dense)             (None, 1)                 6

=================================================================
Total params: 636
Trainable params: 636
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

7.441730976104736m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 4

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 4)                 20

 dense_1 (Dense)             (None, 4)                 20

 dropout (Dropout)           (None, 4)                 0

 dense_2 (Dense)             (None, 4)                 20

 dense_3 (Dense)             (None, 1)                 5

=================================================================
Total params: 65
Trainable params: 65
Non-trainable params: 0
_________________________________________________________________
```

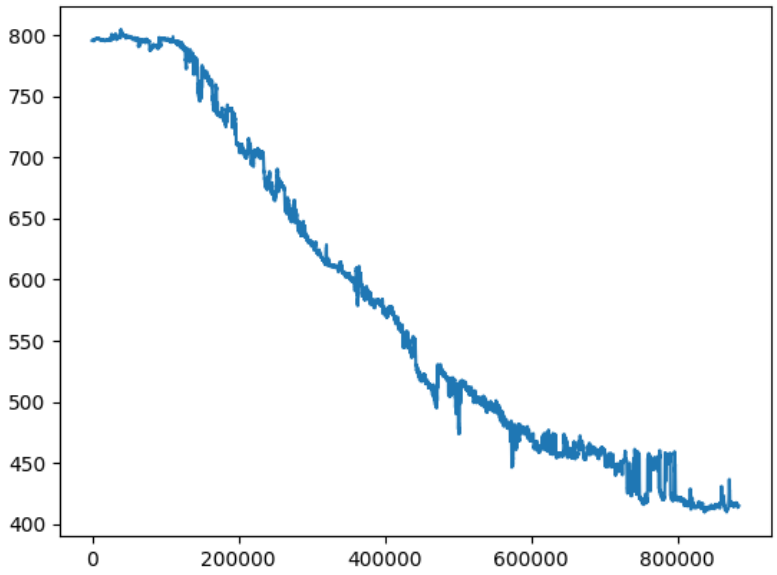

Figure 4: 3.png

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

52.309898376464844m

Daten 2022-05-03-0004-VG mit Model ausgewertet

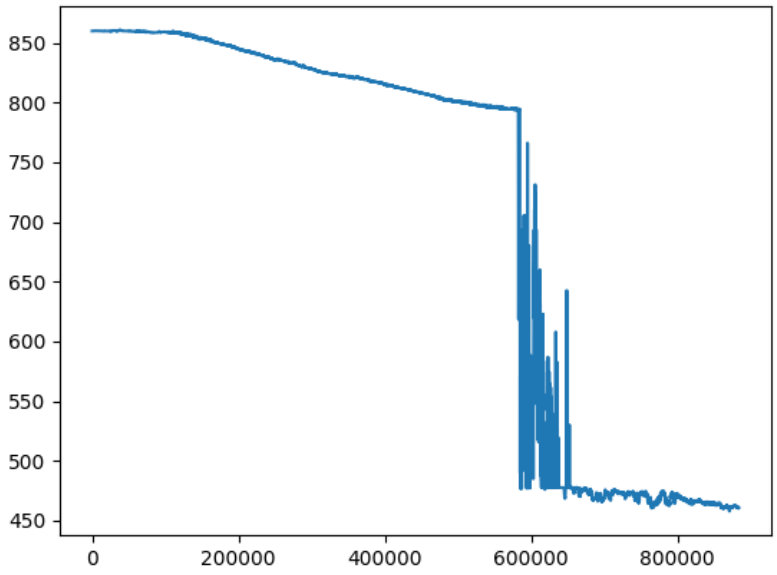

Figure 5: 36.png

Model 5

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110
```

```
 dropout_1 (Dropout)         (None, 10)                0

 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110

 dropout_3 (Dropout)         (None, 10)                0

 activation_3 (Activation)   (None, 10)                0

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

40.42742156982422m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 6

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0
```

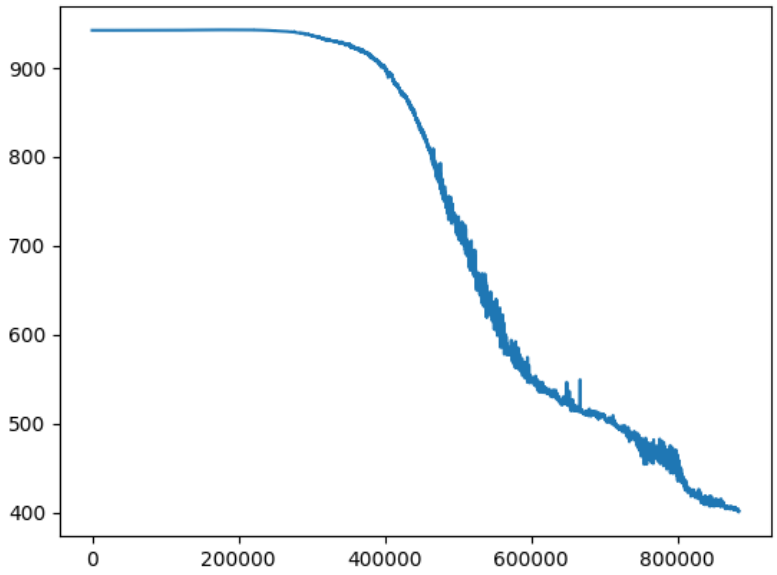

Figure 6: 5.png

```
dense_1 (Dense)              (None, 10)                110

dropout_1 (Dropout)          (None, 10)                0

batch_normalization_1 (Batc  (None, 10)                40
hNormalization)

activation_1 (Activation)    (None, 10)                0

dense_2 (Dense)              (None, 10)                110

dropout_2 (Dropout)          (None, 10)                0

batch_normalization_2 (Batc  (None, 10)                40
hNormalization)

activation_2 (Activation)    (None, 10)                0

dense_3 (Dense)              (None, 10)                110

dropout_3 (Dropout)          (None, 10)                0

batch_normalization_3 (Batc  (None, 10)                40
hNormalization)

activation_3 (Activation)    (None, 10)                0

dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

29.35040855407715m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 7

Model Architektur

```
Model: "sequential"
_________________________________________________________________
```

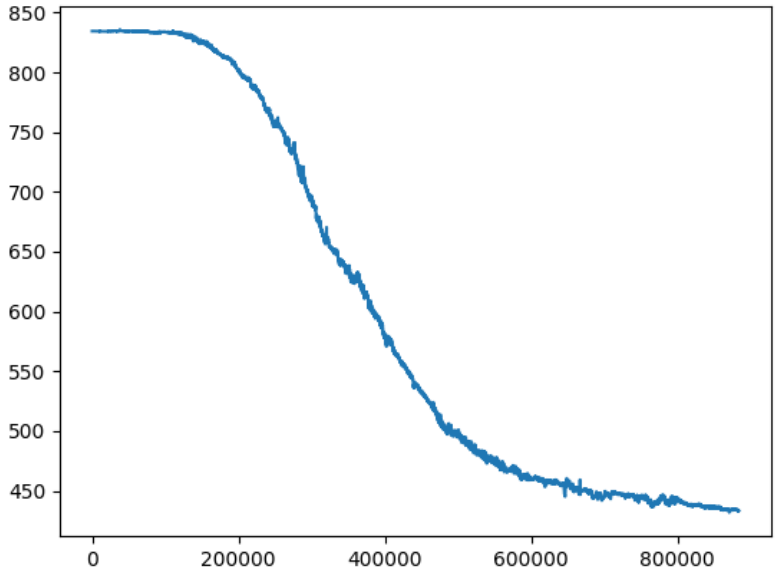

Figure 7: 6.png

```
 Layer (type)                 Output Shape              Param #
=================================================================
 dense (Dense)                (None, 10)                50

 dropout (Dropout)            (None, 10)                0

 batch_normalization (BatchN  (None, 10)                40
 ormalization)

 activation (Activation)      (None, 10)                0

 dense_1 (Dense)              (None, 10)                110

 dropout_1 (Dropout)          (None, 10)                0

 batch_normalization_1 (Batc  (None, 10)                40
 hNormalization)

 activation_1 (Activation)    (None, 10)                0

 dense_2 (Dense)              (None, 10)                110

 dropout_2 (Dropout)          (None, 10)                0

 batch_normalization_2 (Batc  (None, 10)                40
 hNormalization)

 activation_2 (Activation)    (None, 10)                0

 dense_3 (Dense)              (None, 10)                110

 dropout_3 (Dropout)          (None, 10)                0

 batch_normalization_3 (Batc  (None, 10)                40
 hNormalization)

 activation_3 (Activation)    (None, 10)                0

 dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

84.46340942382812m

Daten 2022-05-03-0004-VG mit Model ausgewertet

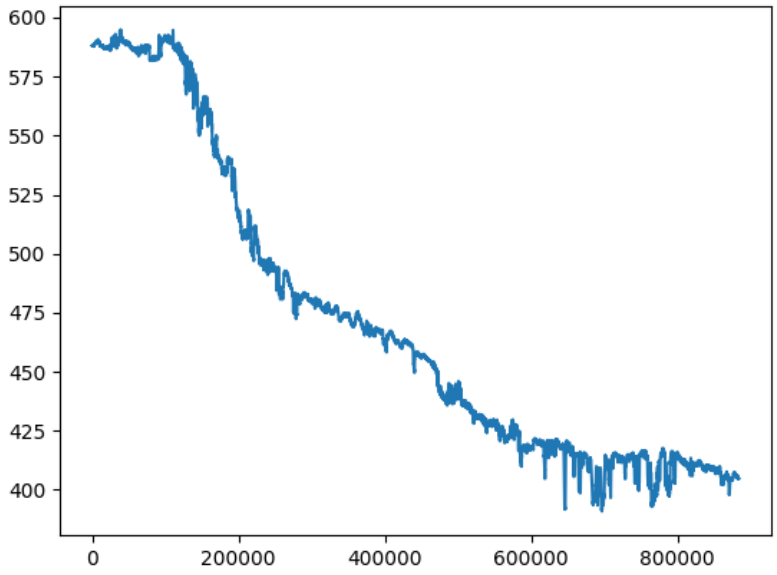

Figure 8: 7.png

Model 8

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0
```

```
dense_1 (Dense)              (None, 10)                110

dropout_1 (Dropout)          (None, 10)                0

batch_normalization_1 (Batc  (None, 10)                40
hNormalization)

activation_1 (Activation)    (None, 10)                0

dense_2 (Dense)              (None, 10)                110

dropout_2 (Dropout)          (None, 10)                0

batch_normalization_2 (Batc  (None, 10)                40
hNormalization)

activation_2 (Activation)    (None, 10)                0

dense_3 (Dense)              (None, 10)                110

dropout_3 (Dropout)          (None, 10)                0

batch_normalization_3 (Batc  (None, 10)                40
hNormalization)

activation_3 (Activation)    (None, 10)                0

dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

23.120187759399414m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 9

Model Architektur

```
Model: "sequential"
```

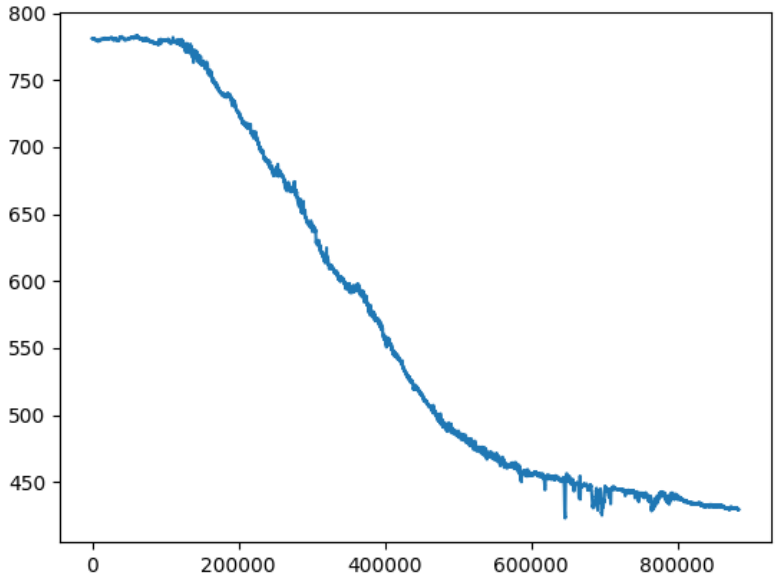

Figure 9: 8.png

```
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
dense (Dense)                (None, 10)                50

dropout (Dropout)            (None, 10)                0

batch_normalization (BatchN  (None, 10)                40
ormalization)

activation (Activation)      (None, 10)                0

dense_1 (Dense)              (None, 10)                110

dropout_1 (Dropout)          (None, 10)                0

batch_normalization_1 (Batc  (None, 10)                40
hNormalization)

activation_1 (Activation)    (None, 10)                0

dense_2 (Dense)              (None, 10)                110

dropout_2 (Dropout)          (None, 10)                0

batch_normalization_2 (Batc  (None, 10)                40
hNormalization)

activation_2 (Activation)    (None, 10)                0

dense_3 (Dense)              (None, 10)                110

dropout_3 (Dropout)          (None, 10)                0

batch_normalization_3 (Batc  (None, 10)                40
hNormalization)

activation_3 (Activation)    (None, 10)                0

dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

35.41854476928711m

Daten 2022-05-03-0004-VG mit Model ausgewertet

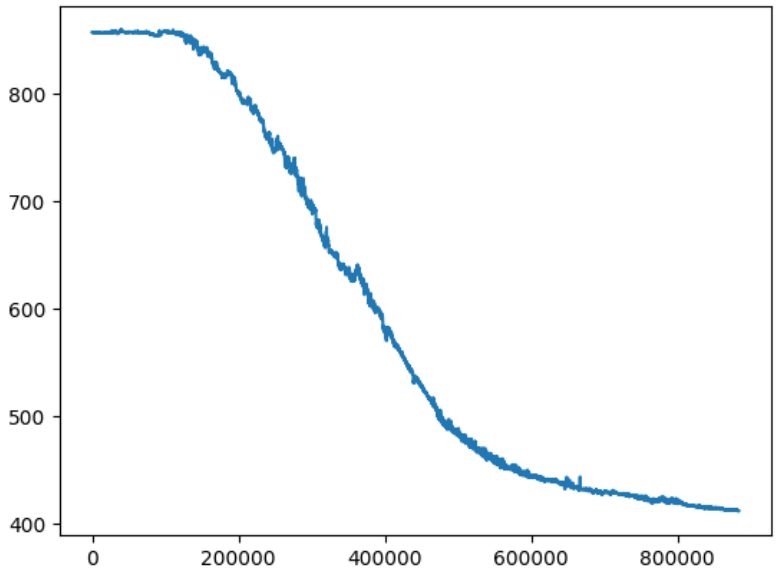

Figure 10: 9.png

Model 10

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110
```

```
 dropout_1 (Dropout)         (None, 10)                0

 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110

 dropout_3 (Dropout)         (None, 10)                0

 activation_3 (Activation)   (None, 10)                0

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

28.894609451293945m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 11

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0
```

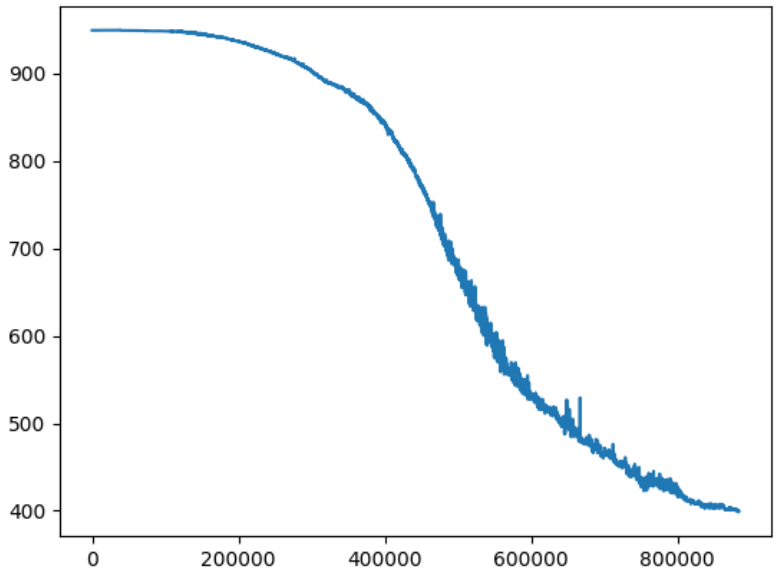

Figure 11: 34.png

```
dense_1 (Dense)              (None, 10)                110

dropout_1 (Dropout)          (None, 10)                0

batch_normalization_1 (Batc  (None, 10)                40
hNormalization)

activation_1 (Activation)    (None, 10)                0

dense_2 (Dense)              (None, 10)                110

dropout_2 (Dropout)          (None, 10)                0

batch_normalization_2 (Batc  (None, 10)                40
hNormalization)

activation_2 (Activation)    (None, 10)                0

dense_3 (Dense)              (None, 10)                110

dropout_3 (Dropout)          (None, 10)                0

batch_normalization_3 (Batc  (None, 10)                40
hNormalization)

activation_3 (Activation)    (None, 10)                0

dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

33.355709075927734m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 12

Model Architektur

```
Model: "sequential"
_________________________________________________________________
```

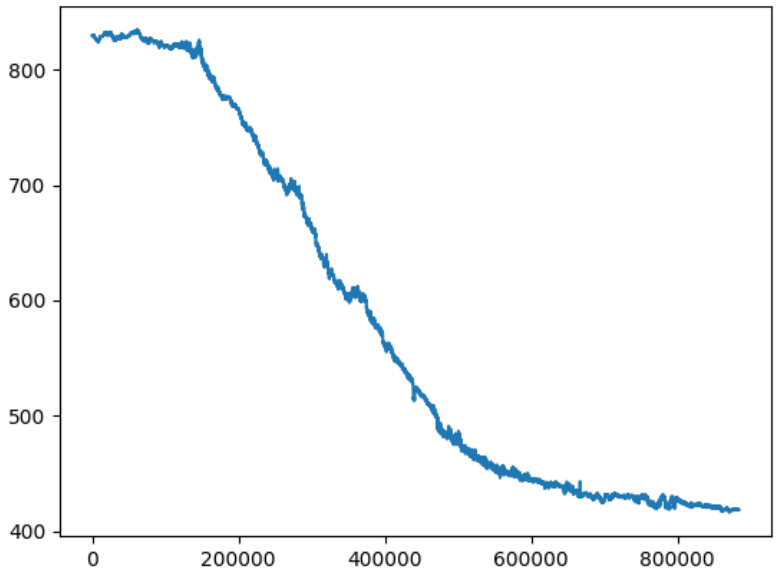

Figure 12: 11.png

```
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

131.80239868164062m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 13

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110

 dropout_1 (Dropout)         (None, 10)                0

 batch_normalization_1 (Batc  (None, 10)               40
 hNormalization)
```

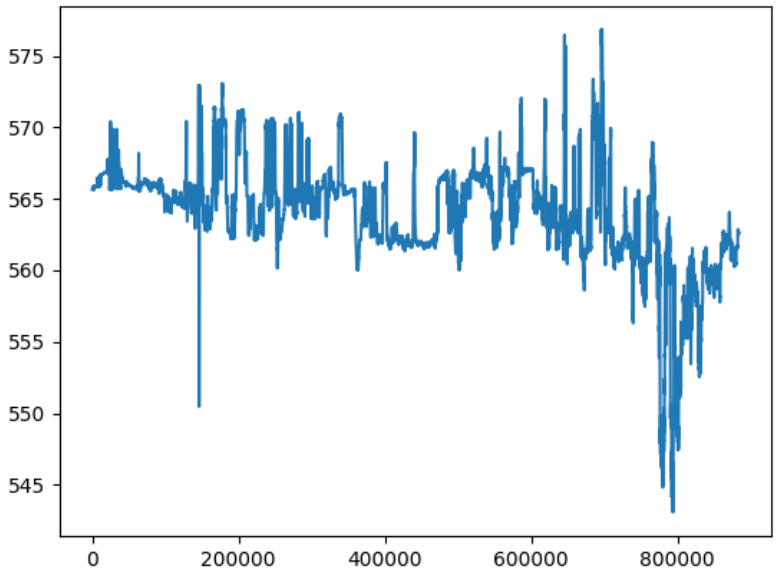

Figure 13: 33.png

```
 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 batch_normalization_2 (Batc  (None, 10)               40
 hNormalization)

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110

 dropout_3 (Dropout)         (None, 10)                0

 batch_normalization_3 (Batc  (None, 10)               40
 hNormalization)

 activation_3 (Activation)   (None, 10)                0

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

57.701053619384766m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 14

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110
```

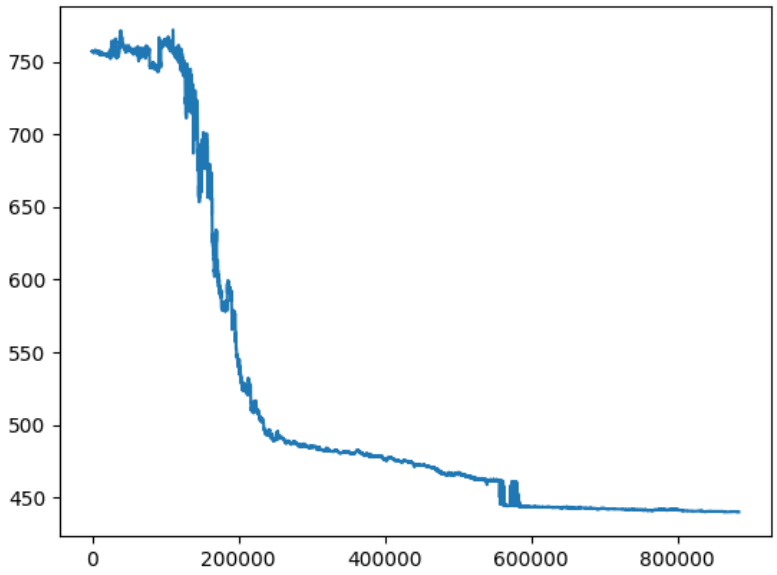

Figure 14: 13.png

```
 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

4.113324165344238m

Daten 2022-05-03-0004-VG mit Model ausgewertet

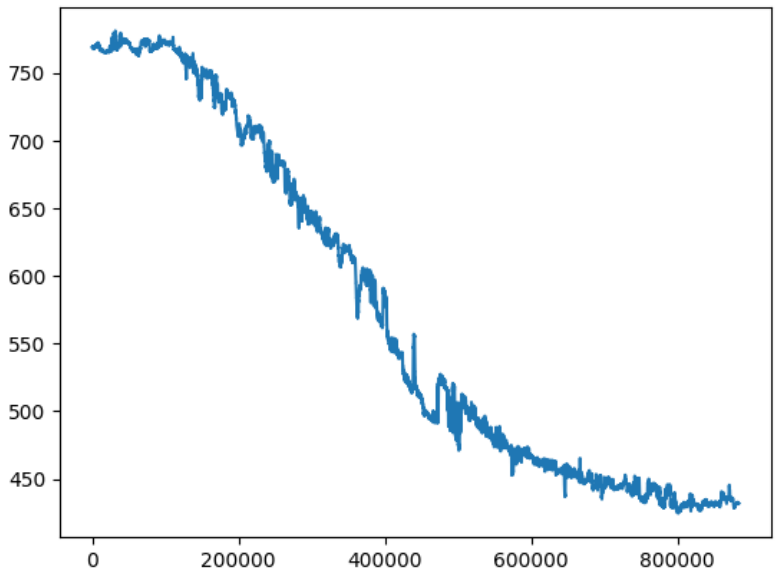

Figure 15: 14.png

Model 15

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 1)                 5

=================================================================
Total params: 5
Trainable params: 5
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

194.7505645751953m

Daten 2022-05-03-0004-VG mit Model ausgewertet

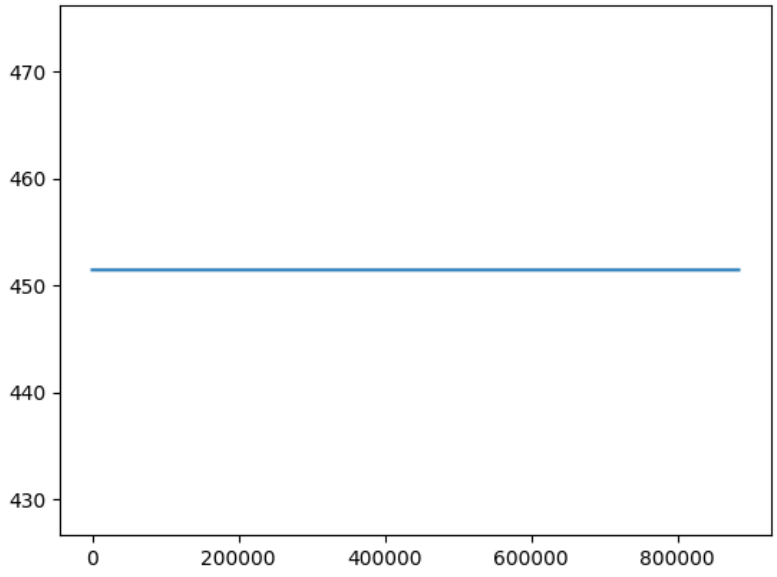

Figure 16: 15.png

Model 16

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110

 dropout_1 (Dropout)         (None, 10)                0

 batch_normalization_1 (Batc  (None, 10)               40
 hNormalization)

 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 batch_normalization_2 (Batc  (None, 10)               40
 hNormalization)

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110

 dropout_3 (Dropout)         (None, 10)                0

 batch_normalization_3 (Batc  (None, 10)               40
 hNormalization)

 activation_3 (Activation)   (None, 10)                0

 dense_4 (Dense)             (None, 1)                 11
```

```
=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

46.39529037475586m

Daten 2022-05-03-0004-VG mit Model ausgewertet

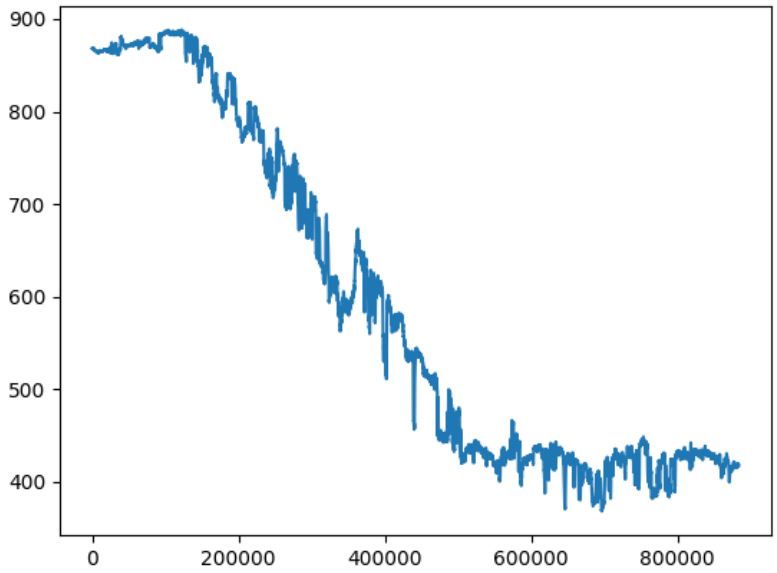

Figure 17: 32.png

Model 17

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50
```

```
dropout (Dropout)           (None, 10)                0

batch_normalization (BatchN  (None, 10)               40
ormalization)

activation (Activation)     (None, 10)                0

dense_1 (Dense)             (None, 10)                110

dropout_1 (Dropout)         (None, 10)                0

batch_normalization_1 (Batc  (None, 10)               40
hNormalization)

activation_1 (Activation)   (None, 10)                0

dense_2 (Dense)             (None, 10)                110

dropout_2 (Dropout)         (None, 10)                0

batch_normalization_2 (Batc  (None, 10)               40
hNormalization)

activation_2 (Activation)   (None, 10)                0

dense_3 (Dense)             (None, 10)                110

dropout_3 (Dropout)         (None, 10)                0

batch_normalization_3 (Batc  (None, 10)               40
hNormalization)

activation_3 (Activation)   (None, 10)                0

dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

30.151086807250977m

Daten 2022-05-03-0004-VG mit Model ausgewertet

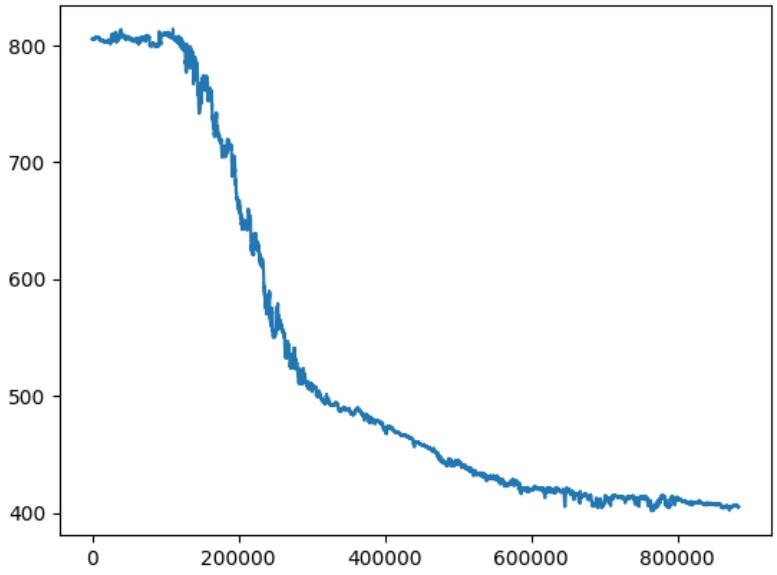

Figure 18: 17.png

Model 18

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
```

```
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

10.006917953491211m

Daten 2022-05-03-0004-VG mit Model ausgewertet

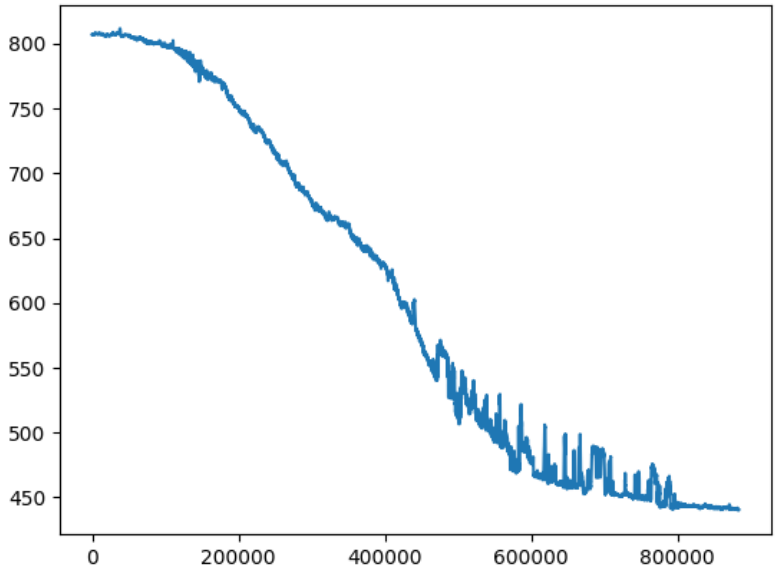

Figure 19: 18.png

Model 19

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50
```

```
 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

31.255023956298828m

Daten 2022-05-03-0004-VG mit Model ausgewertet

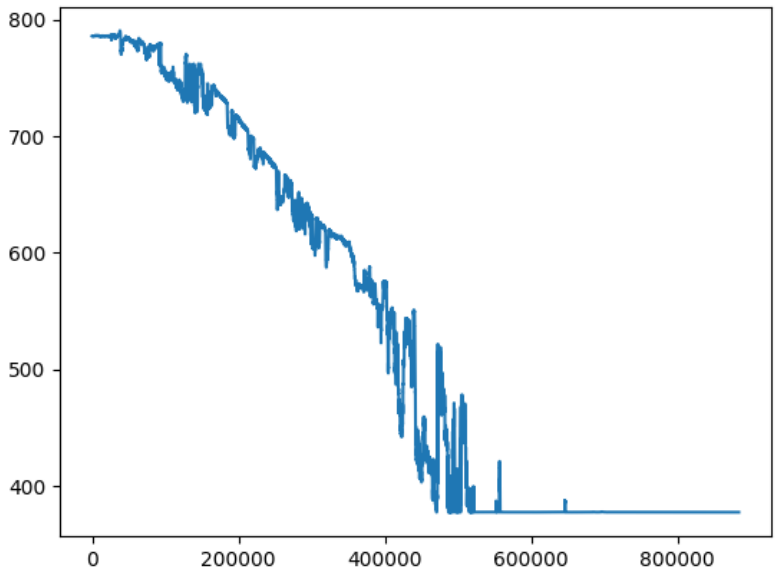

Figure 20: 19.png

Model 20

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 5)                 25

 dense_1 (Dense)             (None, 5)                 30

 dense_2 (Dense)             (None, 5)                 30

 dense_3 (Dense)             (None, 5)                 30

 dense_4 (Dense)             (None, 1)                 6

=================================================================
Total params: 121
Trainable params: 121
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

27.600261688232422m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 21

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 4)                 20

 dense_1 (Dense)             (None, 4)                 20

 dense_2 (Dense)             (None, 4)                 20

 dense_3 (Dense)             (None, 4)                 20

 dense_4 (Dense)             (None, 4)                 20
```

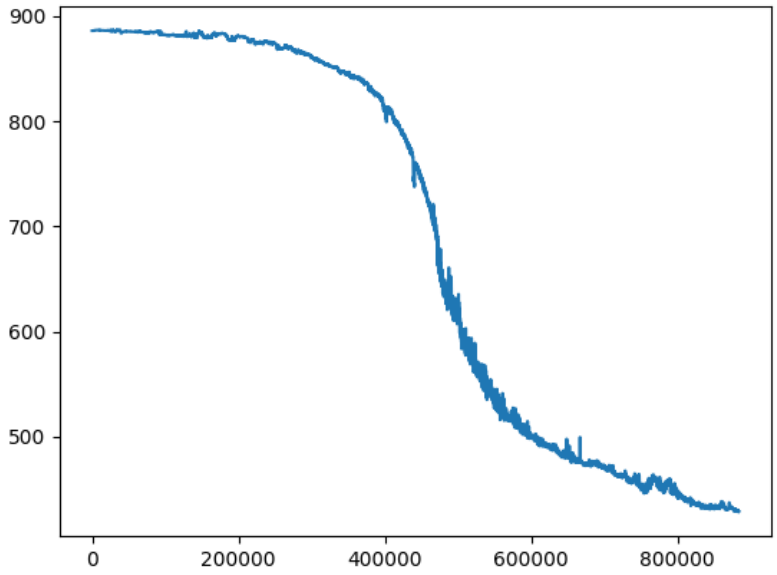

Figure 21: 20.png

```
 dense_5 (Dense)             (None, 1)                 5

=================================================================
Total params: 105
Trainable params: 105
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

17.21582794189453m

Daten 2022-05-03-0004-VG mit Model ausgewertet

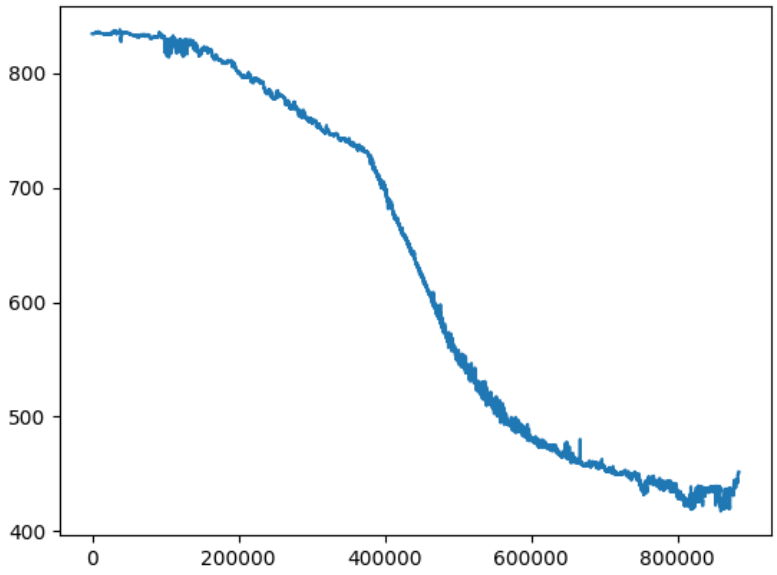

Figure 22: 31.png

Model 22

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
```

```
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

8.943251609802246m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 23

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

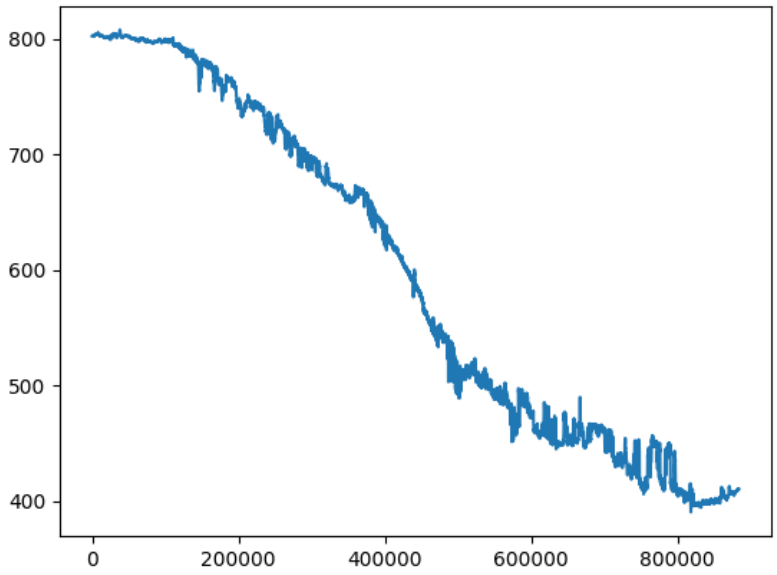

Figure 23: 22.png

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

218.78134155273438m

Daten 2022-05-03-0004-VG mit Model ausgewertet

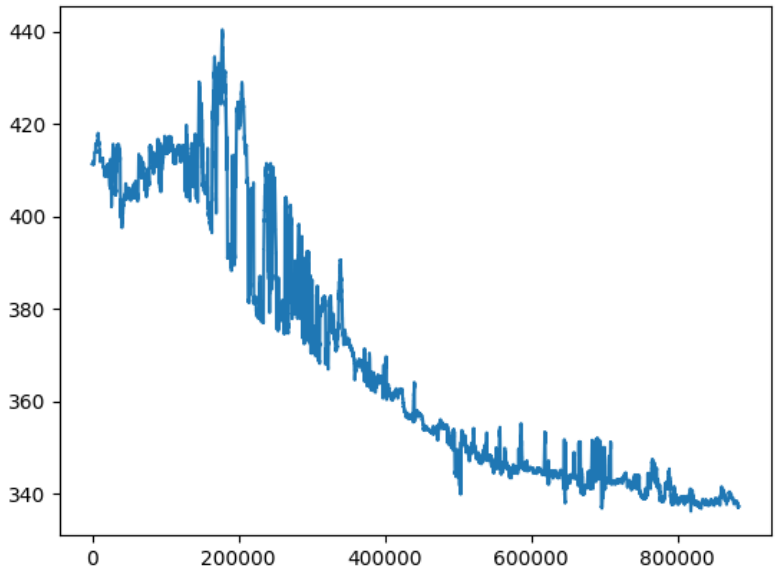

Figure 24: 23.png

Model 24

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0
```

```
dense_1 (Dense)              (None, 10)                110

dropout_1 (Dropout)          (None, 10)                0

batch_normalization_1 (Batc  (None, 10)                40
hNormalization)

activation_1 (Activation)    (None, 10)                0

dense_2 (Dense)              (None, 10)                110

dropout_2 (Dropout)          (None, 10)                0

batch_normalization_2 (Batc  (None, 10)                40
hNormalization)

activation_2 (Activation)    (None, 10)                0

dense_3 (Dense)              (None, 10)                110

dropout_3 (Dropout)          (None, 10)                0

batch_normalization_3 (Batc  (None, 10)                40
hNormalization)

activation_3 (Activation)    (None, 10)                0

dense_4 (Dense)              (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

33.779266357421875m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 25

Model Architektur

```
Model: "sequential"
```

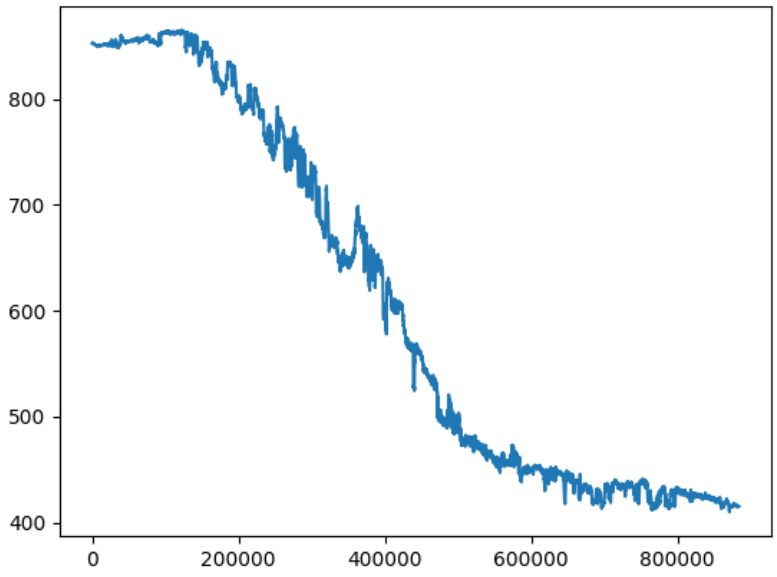

Figure 25: 24.png

```
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 10)                110

 dense_5 (Dense)             (None, 10)                110

 dense_6 (Dense)             (None, 1)                 11

=================================================================
Total params: 611
Trainable params: 611
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

9.034212112426758m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 26

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dropout (Dropout)           (None, 10)                0

 batch_normalization (BatchN  (None, 10)               40
 ormalization)

 activation (Activation)     (None, 10)                0

 dense_1 (Dense)             (None, 10)                110
```

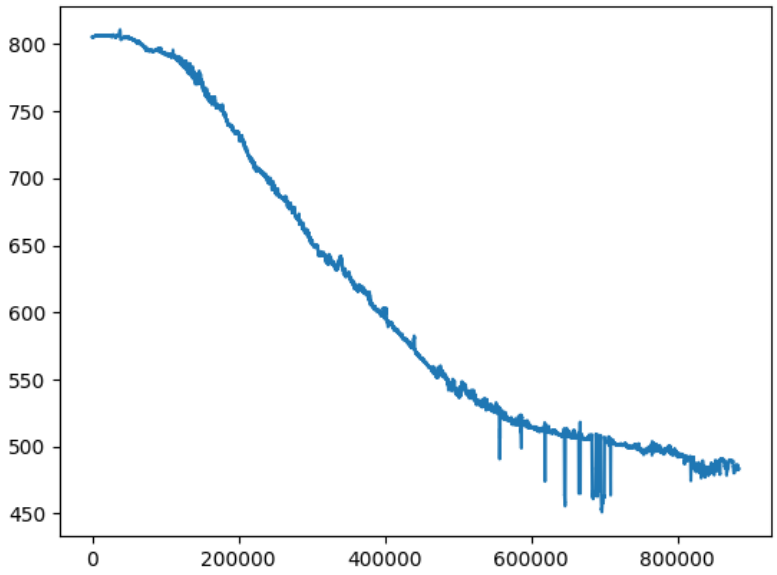

Figure 26: 30.png

```
 dropout_1 (Dropout)         (None, 10)                0

 batch_normalization_1 (Batc  (None, 10)               40
 hNormalization)

 activation_1 (Activation)   (None, 10)                0

 dense_2 (Dense)             (None, 10)                110

 dropout_2 (Dropout)         (None, 10)                0

 batch_normalization_2 (Batc  (None, 10)               40
 hNormalization)

 activation_2 (Activation)   (None, 10)                0

 dense_3 (Dense)             (None, 10)                110

 dropout_3 (Dropout)         (None, 10)                0

 batch_normalization_3 (Batc  (None, 10)               40
 hNormalization)

 activation_3 (Activation)   (None, 10)                0

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 551
Trainable params: 471
Non-trainable params: 80
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

41.790836334228516m

Daten 2022-05-03-0004-VG mit Model ausgewertet

Model 27

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
```

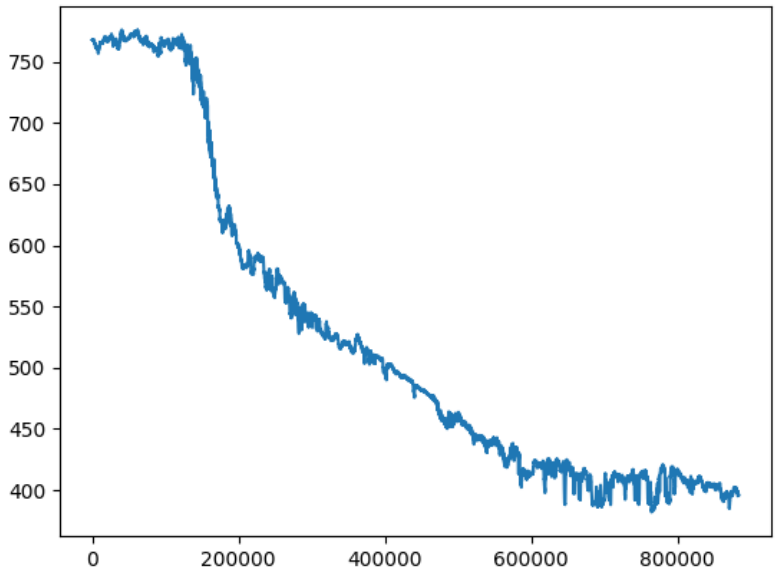

Figure 27: 29.png

```
=================================================================
 dense (Dense)               (None, 30)                150

 dense_1 (Dense)             (None, 30)                930

 dense_2 (Dense)             (None, 30)                930

 dense_3 (Dense)             (None, 1)                 31

=================================================================
Total params: 2,041
Trainable params: 2,041
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

6.168951034545898m

Daten 2022-05-03-0004-VG mit Model ausgewertet

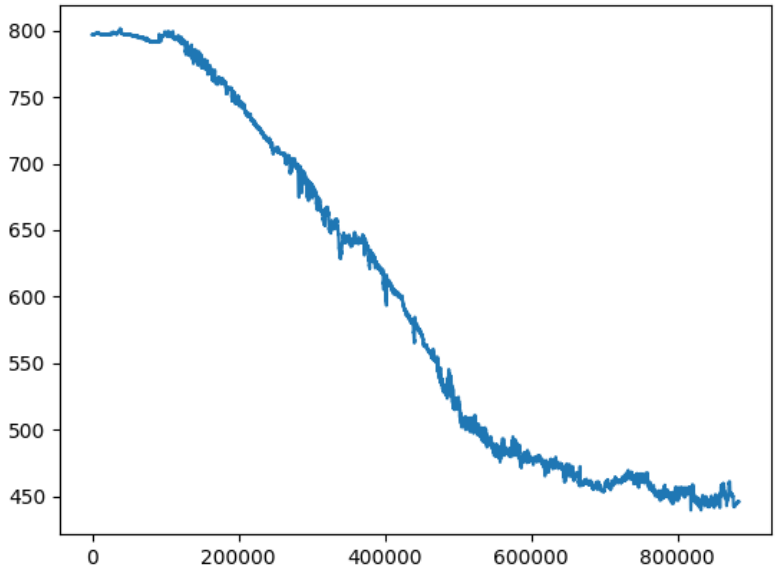

Figure 28: 27.png

Model 28

Model Architektur

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 10)                50

 dense_1 (Dense)             (None, 10)                110

 dense_2 (Dense)             (None, 10)                110

 dense_3 (Dense)             (None, 10)                110

 dense_4 (Dense)             (None, 1)                 11

=================================================================
Total params: 391
Trainable params: 391
Non-trainable params: 0
_________________________________________________________________
```

Durchschnittlicher absoluter Fehler auf Testdaten (in Meter)

11.27298641204834m

Daten 2022-05-03-0004-VG mit Model ausgewertet

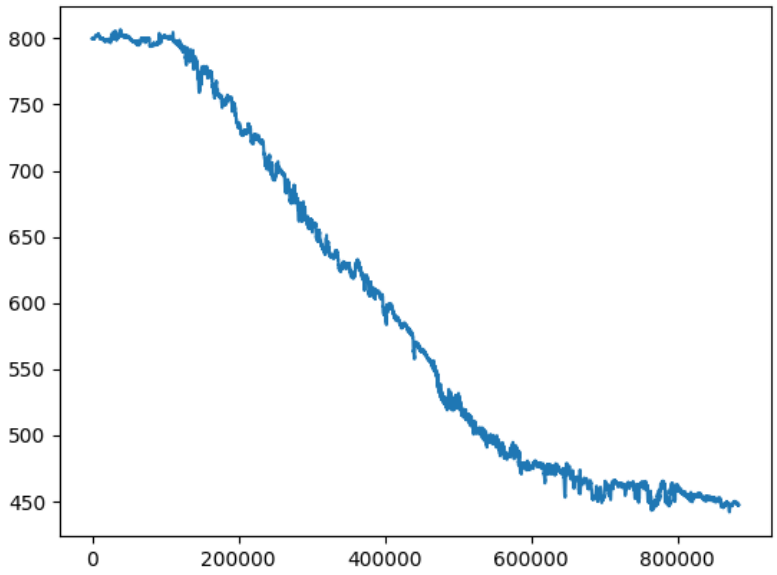

Figure 29: 28.png