

Predicting Desktop Prices

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Motivation

- Business
- Computers are cool



Data



Lenovo ★★★★★ (1)

Lenovo Desktop Computer
ThinkCentre M715q
(10M30009US) A12-Series APU


~~\$681.91~~
\$498.99 (22 Offers)

Save: 27%

Free Shipping

VIEW DETAILS ▶

☐ Compare



Lenovo

Lenovo Desktop Computer
IdeaCentre 510A-15ICB
(90HV0000US) Intel Core i7 8th

Free Intel Performance Software Bundle w/ purchase, limited offer


~~\$899.99~~
\$831.68 (22 Offers)

Save: 8%

\$9.99 Shipping

VIEW DETAILS ▶

☐ Compare



Lenovo ★★★★★ (1)

Lenovo Desktop Computer
ThinkCentre M710e
(10UR001MUS) Intel Core i3 7th


~~\$489.00~~
\$454.72 (41 Offers)

Save: 7%

Free Shipping

VIEW DETAILS ▶

☐ Compare



Lenovo

Refurbished: Lenovo Grade A
Desktop Computer M82 Intel
Core i5 3rd Gen 3470 (3.20 GHz) 8

~~\$174.99~~
\$174.99

\$3.99 Shipping

ADD TO CART ▶

☐ Compare

Model	
Brand	DELL
Series	OptiPlex
Model	3050 (K01HD)
Part Number	K01HD

Quick Info	
Type	Business Desktops & Workstations
Form Factor	Mini Tower
Usage	Business
Colors	Black
Processor	Intel Core i5-7500 3.40 GHz
Processor Main Features	64 bit Quad-Core Processor
Cache Per Processor	6 MB L3 Cache
Memory	8 GB DDR4 2400
Storage	1 TB 7200 RPM
Optical Drive	8x DVD+/-RW 9.5 mm Optical Disk Drive
Graphics	Intel HD Graphics 630
Operating System	Windows 10 Pro 64-Bit

Model design

- Cross validated linear regression
- Standard Scaling
- Feature engineering



Results

- R^2 - .74
- MSE - 3882
- Performs well in real world



Conclusions

- Low RAM = cheap computer
- High capacity SSDs are expensive
- Processors with many cores are expensive



Next steps

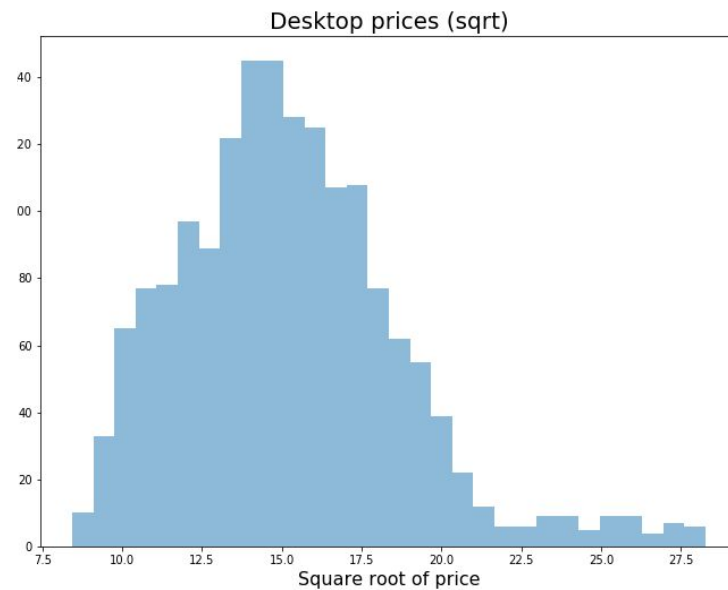
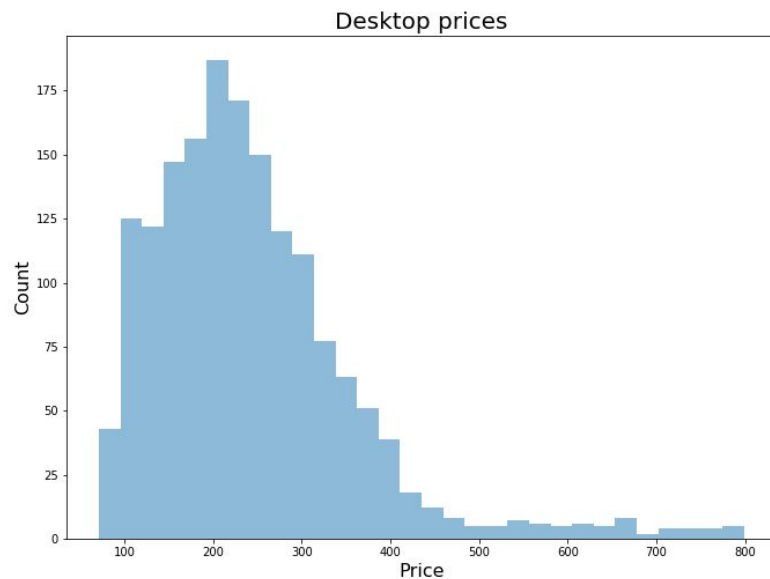
- GPU data
- Different brands
- Experiment with more feature engineering



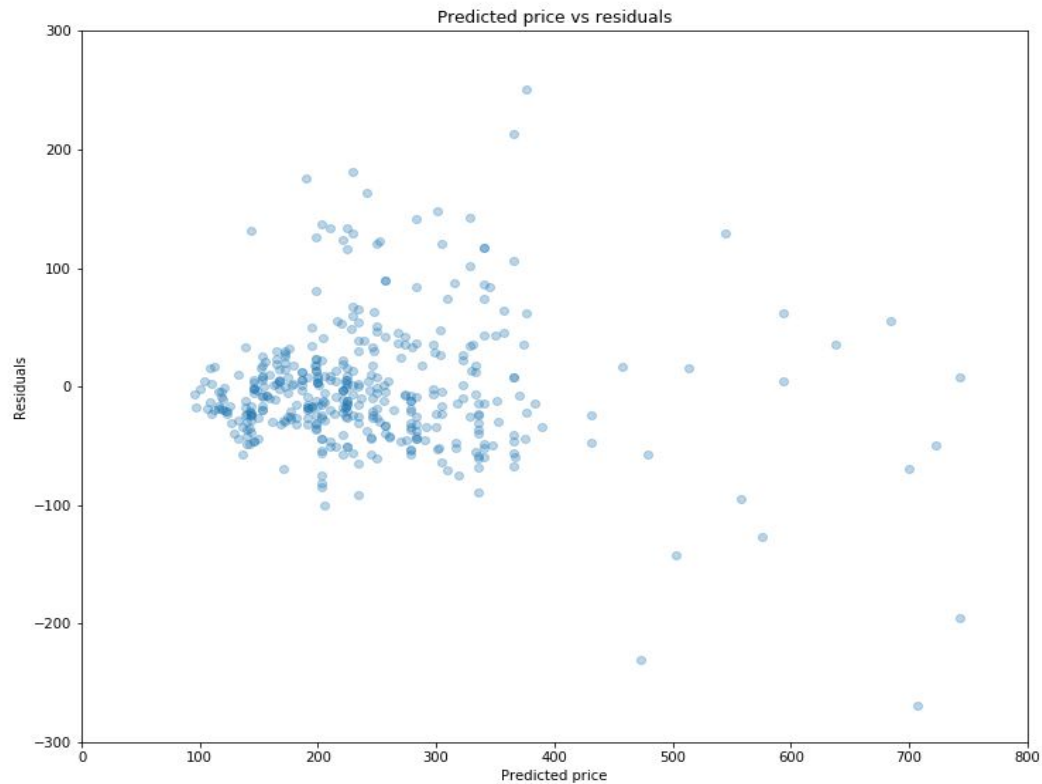
Thank you!

Appendix

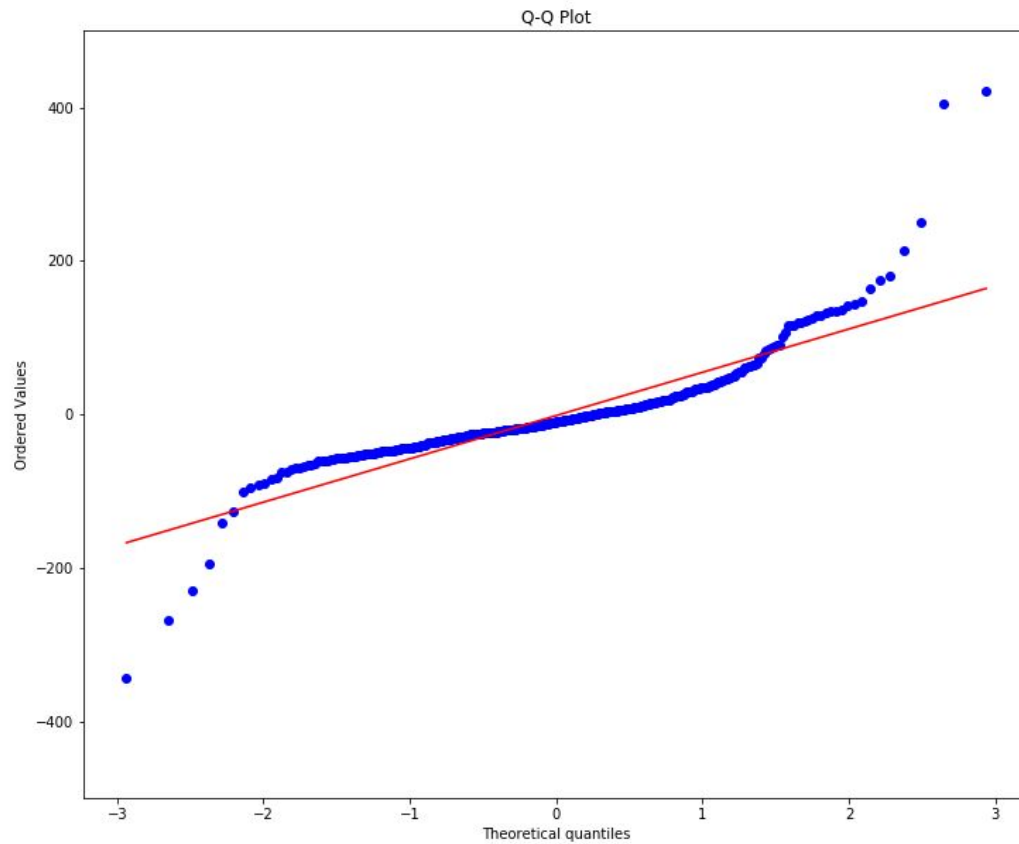
Response transform



Residual plot



Q-Q Plot



Variables

- Price
- Number of cores in processor
- Speed of processor
- Memory capacity
- Storage capacity
- SSD or not
- Integrated graphics or not
- Nvidia graphics or not
- $(\text{SSD capacity})^2$
- $(\text{Number of cores} * \text{speed})^2$
- DDR4 RAM or not
- Presence of both SSD and DDR4
- Presence of both Nvidia and a SSD