# Konstantin Privalov

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# Freelance

**upwork** | PyTorch, Opency, ONNX, Docker, streamlit, wandb, BoofCV, supervise.ly, ... 2021-04 ...2021-07

• By photo from the camera, detects QR codes, recognizes(decoder QR coders)them and get a list of QR codes and show on image. Labeled data, fasterrcnn box/mask, image processing(super resolution, perspective transform and other) to improve QR code recognition, presentation for client by dash(plotly), deploy onnx model to Jetson Nano and more...

# Projects(Kaggle)

Rainforest Connection Species Audio Detection, 73 place | Python, Librosa, PyTorch, Optuna, Pandas..
\* In this competition, you'll automate the detection of bird and frog species in tropical soundscape recordings.

- \* I transform flac to mel spectrogram(use Fast Fourier Transform, Mel scale)and make image
- \* Use stratified fold 5 splits, i invented make fold by bin different frequency flacs, metric label-ranking average precision, i find best heads layers and albumentations
- \* Make Ensemble (efficient to to b4, mobile net) with different params by mel spectogram, used meta data from
- \* Uncountable number of ideas...

**ASHRAE-Great Energy Predictor III, Top 11** % | *KMeas, LGBM, Catboost, Ridge, Lasso, Pandas, Numpy* \* In this competition, develop accurate models of metered building energy usage

- \* Used Hyperopt and find best parameters for models, developed and applied new features
- \* Trained models on 20 features (out of 50), i used 3-fold KFold, rmse competition metric
- \* The end result is a mix of lgbm, catboost and knn, find best coef. to mixing model, my result is top 11 percent.

M5 Forecasting-Accuracy(Walmart), Top 8 % | LGBM, Xgboost, ARIMA, Prophet, Sklearn, Pandas, Numpy \* Walmart Sales Forecasting

- \* I invented how validated data (take all data not include 5 moths to validate and predicted for the next month, then this month turns into data and we predict the next, etc. (5 months)
- \* I make more than 90 features (lags, rolling, time features, etc.), rmse metric, i selected best features use single

LGBM model trained on 60 features. One of results is top 8 percent. Other Competitions: Prostate cANcer graDe Assessment (PANDA) Challenge, SIIM-ISIC Melanoma Classification, Bengali. AI Handwritten Grapheme Classification, 2019 Data Science Bowl

# EDUCATION

#### Murmansk Academy of Economics and Management

Murmansk

Economic, economist

Aug. 2002 - May 2008

### Machine learning by Stanford University

Coursera, 2018

Machine Learning

#### Machine Learning and Data Analysis

Coursera, 2019

 $\begin{array}{l} \textit{Specialization:} \\ \cdot \ \text{Search for structure in data, Mathematics and Python for data analysis, Search for structure in data, Applied} \end{array}$ problems of data analysis

#### EXPERIENCE

"I have been into machine learning for over two years now. I was so carried away ML that l decide to change my professional field of activity. I'm looking for a role where i can grow and continue to learn from other experienced team members."

# TECHNICAL SKILLS

Languages: Ruby, Python, SQL Basic knowledge, Russian-native, English-B1

Libraries: LGBM, Xgboost, Catboost, PyTorch, Sklearn, Scipy, Pandas, NumPy, Matplotlib, Seaborn, Plotly

Other: Colaboratory, VScode, Linux, Probability theory, Mathematical statistics, Git