

# Анализ данных в MATLAB

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## Введение

MATLAB это не только продвинутая среда математических расчетов и моделирования, но и мощный инструмент анализа данных. Для этого за последние несколько лет было добавлено большое количество специальных функций.

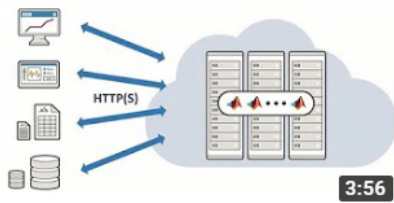
Вот только некоторые из них:

- `table`
- `timetable`
- `datetime`
- `categorical`
- `readtable`
- `smoothdata`
- `rmmissing`
- `fillmissing`
- `isoutlier`
- `retime`
- `groupsummary`
- `discretize`
- `stackedplot`
- `heatmap`
- `geobubble`
- `wordcloud`

Не важно, чем вы занимаетесь - обрабатываете результаты испытаний, телеметрию или анализируете бизнес-данные, результаты продаж, соцсети... С помощью MATLAB вы можете решать свои задачи быстрее и лучше.

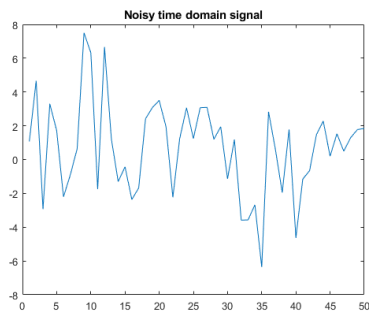
## Примеры

### MATLAB for Data Analytics



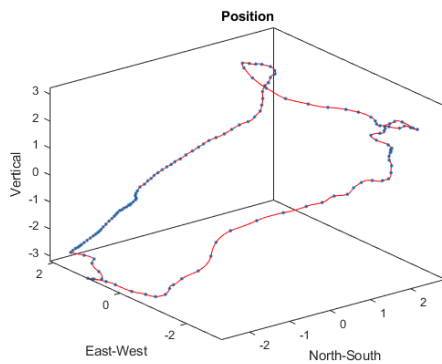
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### FFT for Spectral Analysis



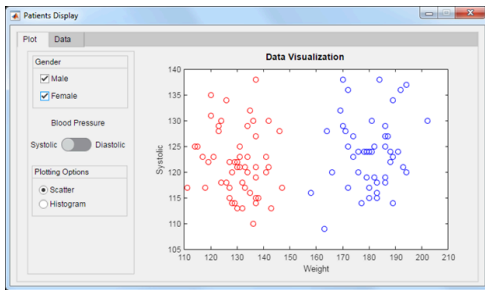
```
web(fullfile(docroot, 'matlab/examples/fft-for-spectral-analysis.html'))
```

### Loma Prieta Earthquake Analysis



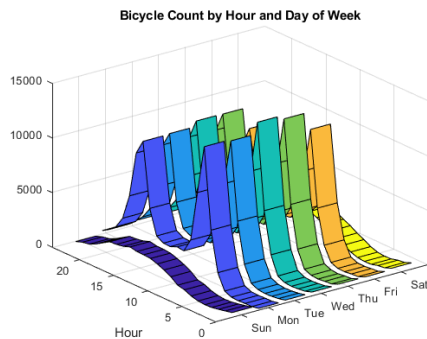
```
web(fullfile(docroot, 'matlab/examples/loma-prieta-earthquake.html'))
```

### Use App Designer to Create a Data Analysis App



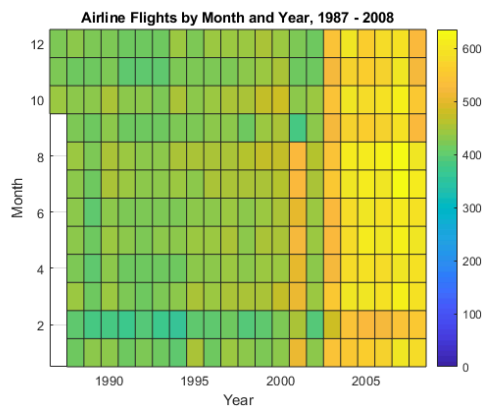
```
web(fullfile(docroot, 'matlab/examples/blood-pressure-app-in-app-designer.html'))
```

## Preprocess and Explore Time-stamped Data Using timetable



```
web(fullfile(docroot, 'matlab/examples/preprocess-and-explore-bicycle-count-data-using-timetable.html'))
```

## Analyze Big Data in MATLAB Using Tall Arrays



```
web(fullfile(docroot, 'matlab/examples/analyze-big-data-in-matlab-using-tall-arrays.html'))
```

## What is President Trump tweeting about that gets our attention?

The Least Popular with N-Grams = 2 Second Least Popular with N-Grams = 2



Third Least Popular with N-Grams = 1 Fourth Least Popular with N-Grams = 2



Открыть

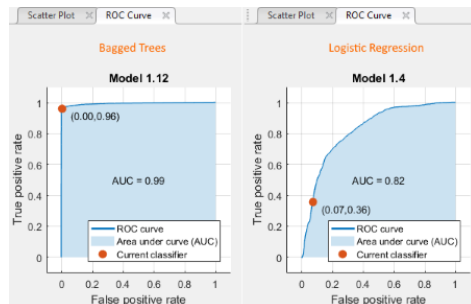
## Ways to Perform Calculations on Groups of Data in Tables

5x6 table

Region	OutageTime	Loss
SouthWest	2002-02-01 12:18	458.98
SouthEast	2003-01-23 00:49	530.14
SouthEast	2003-02-07 21:15	289.4
West	2004-04-06 05:44	434.81
MidWest	2002-03-16 06:18	186.44

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## Predicting When People Quit Their Jobs



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