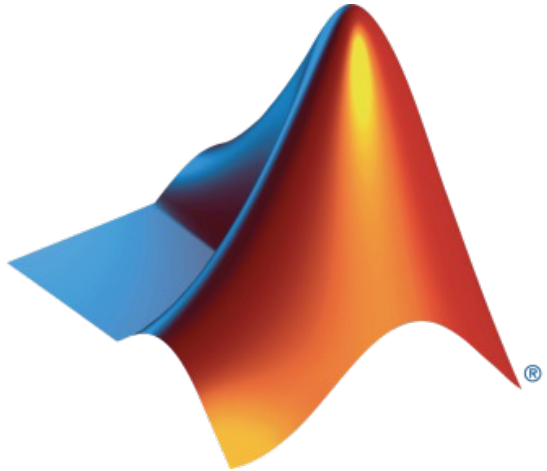
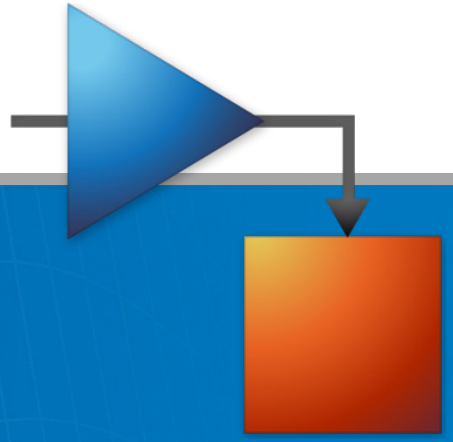
University of Western Ontario
and MathWorks present:

MATLAB ONRAMP





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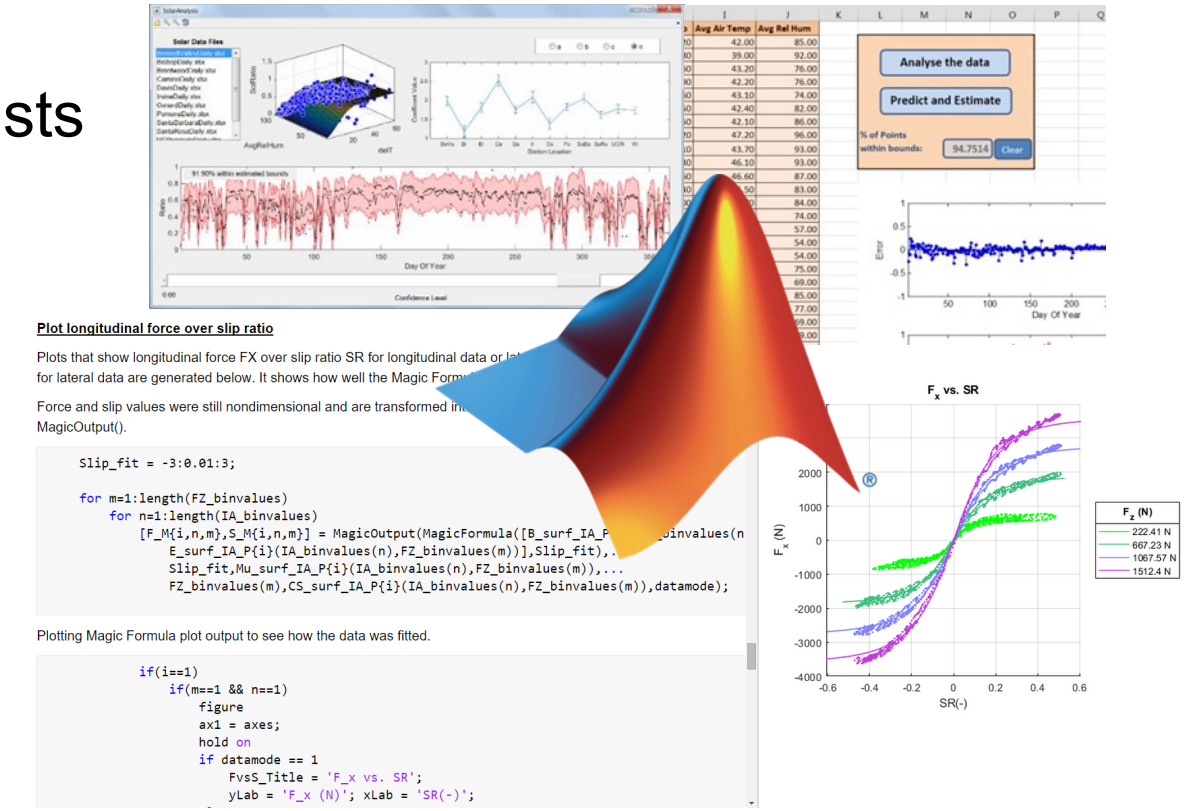
What is MATLAB?

- Programming platform designed specifically for engineers and scientists
  - Matrix-based language
  - Allowing the most natural expression of computational mathematics
- Using MATLAB, you can:
  - Analyze data
  - Develop algorithms
  - Create models and applications

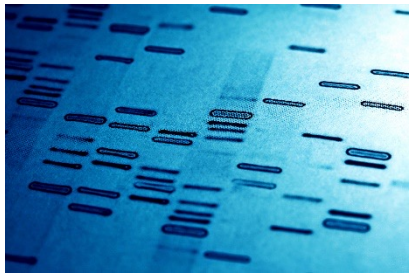


Key Industries that use MATLAB

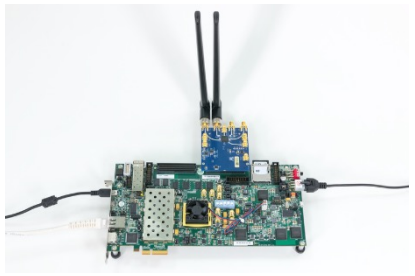
Aerospace and Defense

Automotive

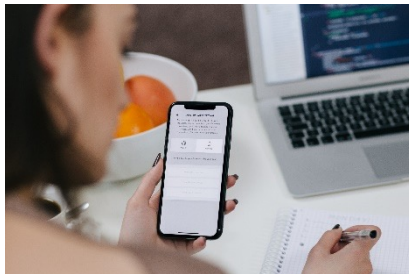
Biological Sciences



Biotech and Pharmaceutical



Communications



Electronics

Energy Production

Financial Services

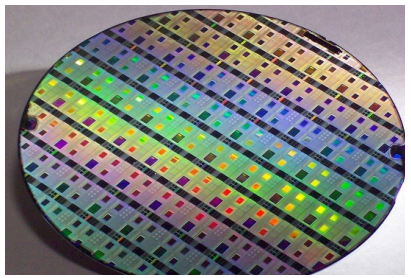
Industrial Machinery

Medical Devices

Metals, Materials, Mining

Neuroscience

Railway Systems



Semiconductors

Software and Internet

A few companies that use MATLAB

- Amazon
- Apple
- AT4 wireless
- BAE Systems
- Bank of England/PRA
- BMW
- Boeing
- Facebook
- Ford Motor Company
- Genentech
- Google
- Huawei
- Hydro-Québec
- Intel
- Johnson & Johnson
- JP Morgan
- NASA
- Nokia
- Qualcomm
- Samsung
- Siemens
- Tetra Pak
- Texas Instruments
- Toyota

4 million+

users in 185 countries

100,000+

businesses, governments, and universities

All of the top 10 automotive and aerospace companies

"If you want to work at Google, make sure you can use MATLAB"

Jonathan Rosenburg, former Google Senior Vice President

Business Insider 2014

OICA: 2017 World Motor Vehicle Production
PwC: Aerospace and Defense 2018 Year in Review

How do companies use MATLAB?

BAE Systems - Develops Autopilot for Unmanned Aerial Vehicle (UAV) - Aerospace

Challenge

Enable teams working in separate locations to design a sophisticated UAV autopilot system quickly and inexpensively

Solution

Use MathWorks tools, modify existing software designs with Model-Based Design, and automatically generate embedded control code

Results

- Design and rework costs substantially reduced
- Testing cycle time minimized
- Coding errors and manual documentation work minimized

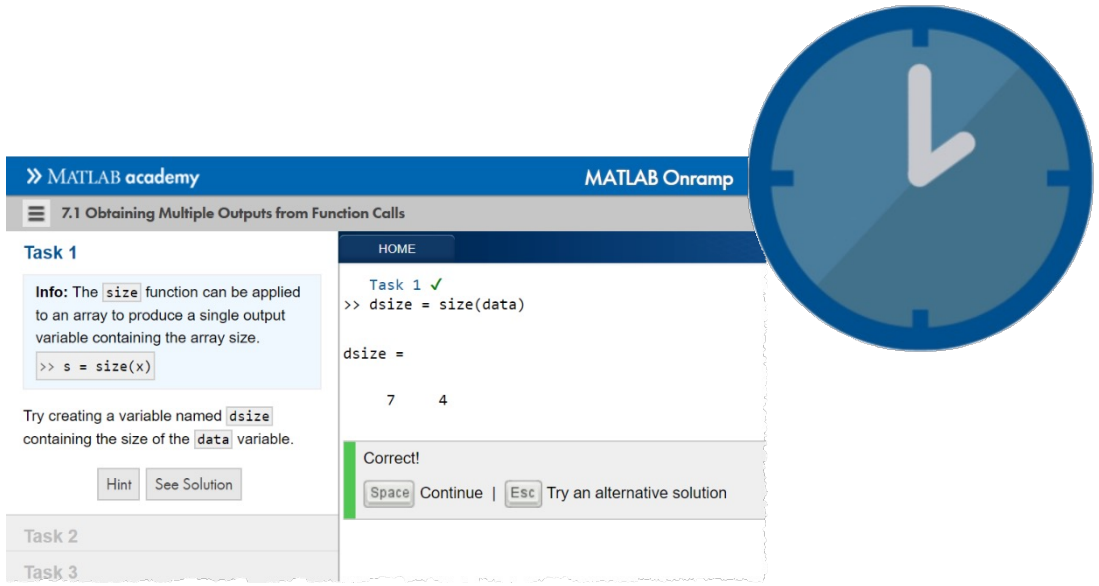
An Eagle 150 unmanned aerial vehicle flight.
(Image courtesy of Composites Technology Research Malaysia.)

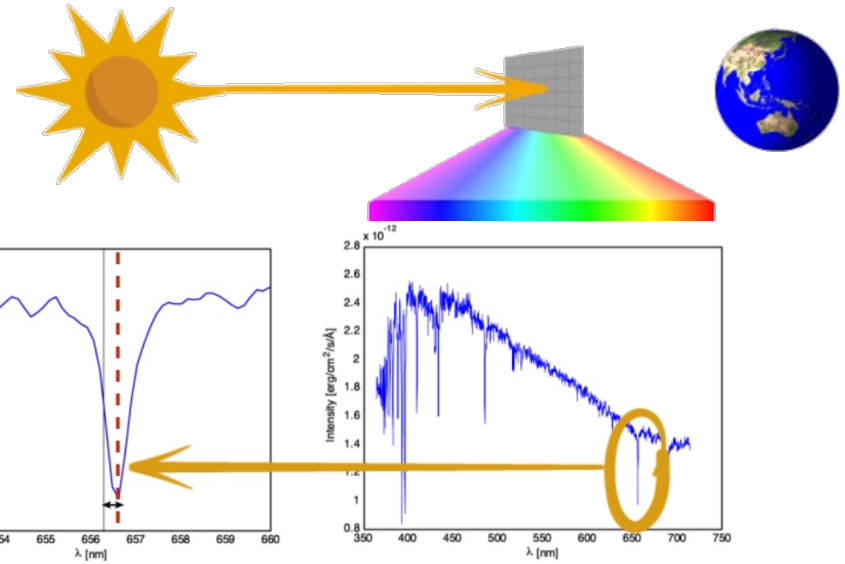
"MATLAB and Simulink greatly reduced development cycle time and cut system software design and testing costs by 50%."
- Feng Liang, BAE Systems Controls

Link to user story

MATLAB Onramp

- Learn the basics of MATLAB in 2 hours, at no cost
- Hands-on exercises with feedback
- Topics include:
  - MATLAB commands
  - Importing and manipulating data
  - Creating and annotating plots
  - Scripts and basic programming constructs





TO DO

- Create your UWO - MathWorks Account
  https://www.mathworks.com/academia/tah-portal/western-university-964054.html
- Go to MATLAB Onramp
  https://matlabacademy.mathworks.com/
- Launch MATLAB Onramp

Prizes

- Complete at least 60% of MATLAB Onramp to be eligible for any prize
  - Bring your laptop when you come to collect the prize

Follow us on Instagram!

- @UWOMATLAB

Other Course Offerings

These courses are free for students enrolled to a university with a MATLAB Academic Online Training Suite (MAOTS) license

- MATLAB Programming Techniques
- MATLAB for Data Processing and Visualization
- Solving Ordinary Differential Equations with MATLAB

https://matlabacademy.mathworks.com/

Additional Resources

- MATLAB Central
  - https://www.mathworks.com/matlabcentral/
- Mathworks Academia
  - https://www.mathworks.com/academia.html?s_tid=gn_acad
- Cody Problems
  - https://www.mathworks.com/matlabcentral/cody/