

Remote/Online hands-on projects for Laboratory activities

Dr. Martina Sciola

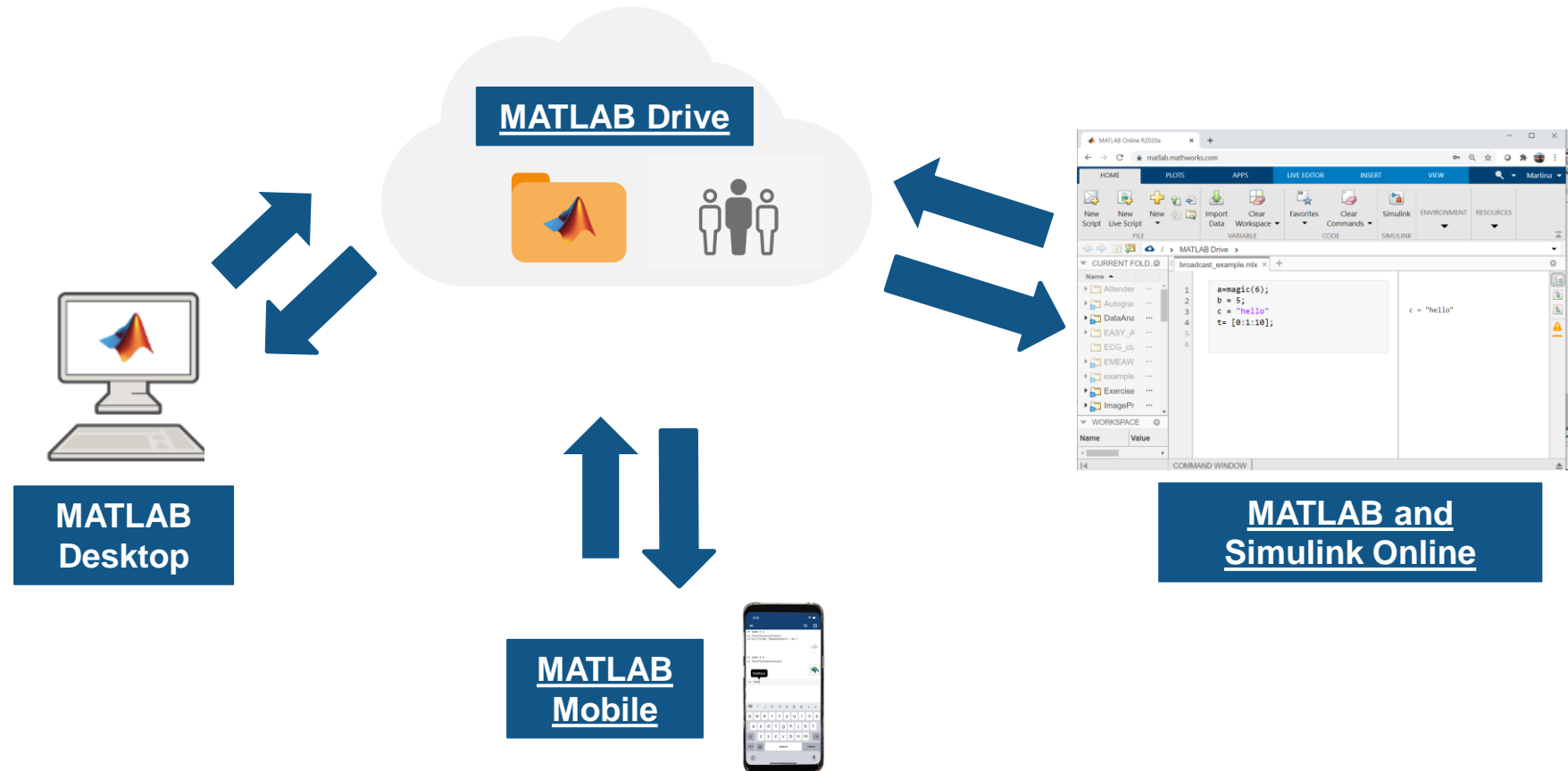
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MATLAB and Simulink for Remote/Online teaching

Learn and practise anywhere, anytime with MATLAB Online and MATLAB Mobile

Students and Staff have access to MATLAB for free with [Campus-Wide Licence](#)



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Over 100 hours of self-study interactive Online courses

- Browser – Based courses
- Immediate Feedback and hints
- Self-Paced

<https://matlabacademy.mathworks.com/>

Getting Started

| | | | | |
|--|---|---|--|--|
| <p>MATLAB Onramp Get started quickly with the basics of MATLAB.</p> <p>Launch Details</p> | <p>Simulink Onramp Get started quickly with the basics of Simulink.</p> <p>Details</p> | <p>Machine Learning Onramp Learn the basics of practical machine learning methods for classification problems.</p> <p>Launch Details</p> | <p>Deep Learning Onramp Get started quickly using deep learning methods to perform image recognition.</p> <p>Launch Details</p> | <p>Stateflow Onramp Learn the basics of creating, editing, and simulating state machines in Stateflow.</p> <p>Details</p> |
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Core MATLAB

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|---|--|--|--|--|
| <p>MATLAB Fundamentals Learn core MATLAB functionality for data analysis, modeling, and programming.</p> <p>Launch Details</p> | <p>MATLAB for Data Processing and Visualization Create custom visualizations and automate your data analysis tasks.</p> <p>Launch Details</p> | <p>MATLAB Programming Techniques Improve the robustness, flexibility, and efficiency of your MATLAB code.</p> <p>Launch Details</p> | <p>Machine Learning with MATLAB Explore data and build predictive models.</p> <p>Launch Details</p> | <p>Deep Learning with MATLAB Learn the theory and practice of building deep neural networks with real-life image and sequence data.</p> <p>Launch Details</p> |
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Data Science

Computational Mathematics

*Available only to users at universities that offer campus-wide online training access.

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|--|--|--|--|---|
| <p>Introduction to Symbolic Math with MATLAB Get started quickly with an introduction to symbolic math.</p> <p>Launch Details</p> | <p>Solving Nonlinear Equations with MATLAB Use root finding methods to solve nonlinear equations.</p> <p>Launch Details</p> | <p>Solving Ordinary Differential Equations with MATLAB Use MATLAB ODE solvers to numerically solve ordinary differential equations.</p> <p>Launch Details</p> | <p>Introduction to Linear Algebra with MATLAB Use matrix methods to solve systems of linear equations and perform eigenvalue decomposition.</p> <p>Launch Details</p> | <p>Introduction to Statistical Methods with MATLAB Get started quickly with basic descriptive statistics and data fitting.</p> <p>Launch Details</p> |
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Autograde code with MATLAB Grader

- Save time marking MATLAB code!
- Immediate Feedback
- Problem Collection
- Student performance analytics

Assessment: 0 of 2 Tests Passed

Run Pretest Submit

✘ Does the function return valid outputs for the given test inputs? (Pretest)
 The real parts of the closed-loop poles are not less than -a.
 Hint: Since the closed-loop transfer function is second order, the desired closed-loop poles will be a complex-conjugate pair. Choose the desired real and imaginary parts of the closed-loop poles to place them just inside the desired region.

✘ Does the function return valid outputs for randomized inputs?
 The real parts of the closed-loop poles are not less than -a.

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<https://www.mathworks.com/hardware-support/home.html>




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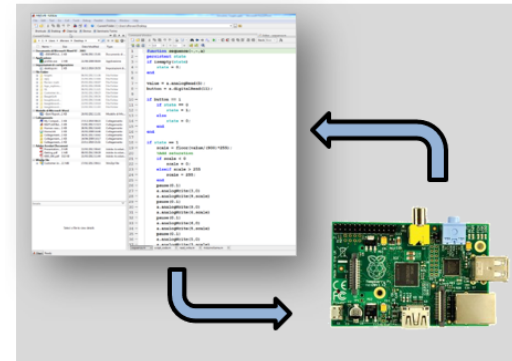
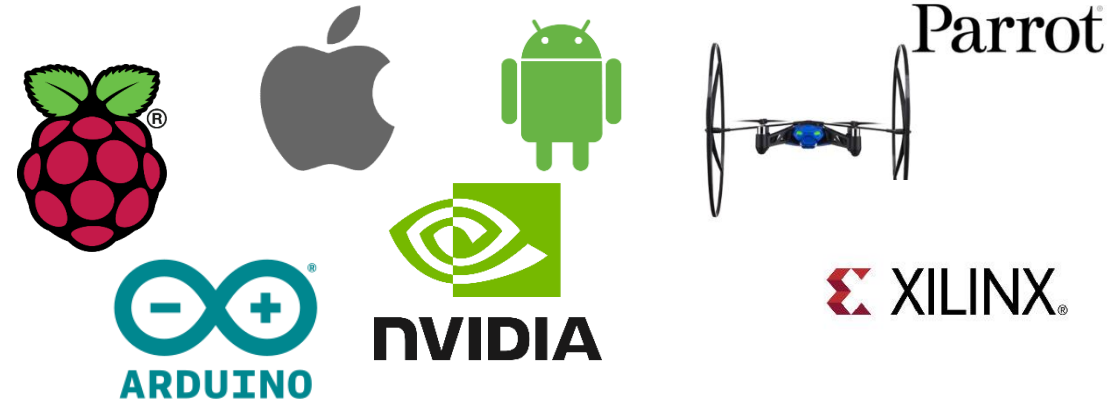


Autograde code with MATLAB Grader

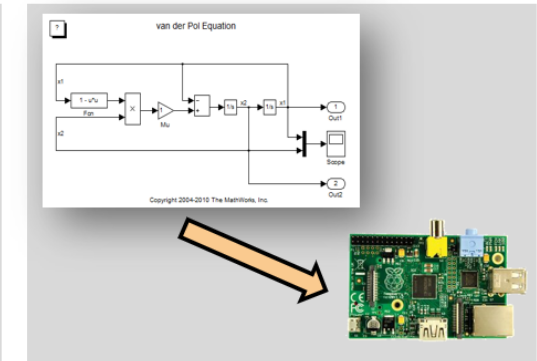


MATLAB & Simulink with Hardware for Virtual, Take Home and University Labs

Free hardware support packages!



Tethered
Write MATLAB code and communicate with the board



Embedded
Develop a Simulink model and program the board

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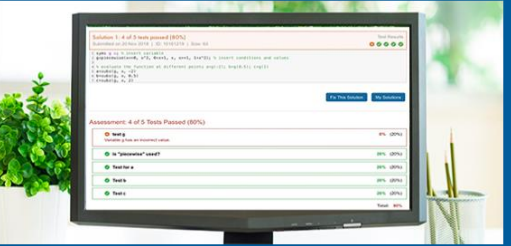
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IoT platform with built-in MATLAB analysis!




ThingSpeak for IoT Projects
Data collection in the cloud with advanced data analysis using MATLAB


[Channels](#) [Learn More](#)



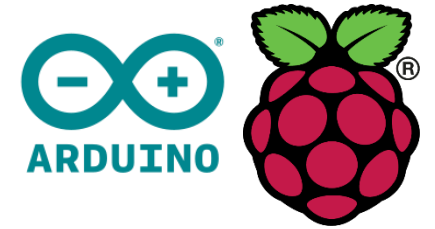
Autograde code with MATLAB Grader



MATLAB & Simulink with Hardware for Virtual, Take Home and University Labs



Collect and analyse data from ThingSpeak using MATLAB



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Want to learn more and get started with these resources?



Autograde code with MATLAB Grader



MATLAB & Simulink with Hardware for Virtual, Take Home and University Labs



Collect and analyse data from ThingSpeak using MATLAB

- Friday 11th September 9.00 am CEST - join the MathWorks session for SIDRA
- Visit <https://www.mathworks.com/academia.html> within the Educators section
- [Teaching with MATLAB Online training](#)
- Join the [Distance Learning Community!](#)

THANKS FOR YOUR ATTENTION

Any questions?

https://www.mathworks.com/support/contact_us

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