

# Introducing ... Matlab!

Raymond J. Spiteri

Faculty of Computer Science  
Department of Mathematics and Statistics  
Dalhousie University

<http://www.cs.dal.ca/spiteri>

# Outline

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- What is Matlab?

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- What is Matlab?
- Why Matlab?

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- Why Matlab?
- Getting Started

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- Getting Started
- Basic Matlab Programming

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- problem-solving environment
- designed for convenient numerical computations, esp. matrix manipulation, but also DEs, stats, and graphics
- developed by Cleve Moler in 1970s as a teaching tool
- now ubiquitous in education and industry

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- customized graphical-user-interface building
- has many specialized functions (Toolboxes)

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- ... you use a free clone (e.g., octave, scilab, etc.)

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- ... you code things in an “optimized” fashion

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- rapid prototyping/debugging of sophisticated code
- can be used interactively (“scratchpad”) or from scripts

# Why Matlab?

- Consider the “old” way to solve a linear system  $Ax = b$ :

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CALL DECOMP (NX, NX, A, IP, WORK, IPSD)
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CALL SOLVE (NX, NX, A, B, X, 1, IP, WORK)
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- *Sensible numerical algorithms!*

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- other books (*Mastering Matlab 6*)