

Scripting for Data Science in Python and R

SMU Interdisciplinary Master's Degree in Data Science

Unit 4 - I. an introduction to the week

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Unit 4 - II. vectorized coding in python

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introduction to numpy

- numpy (numb-pie)
- written in c++ with python wrapper
 - fast but expressive
 - open source, produced by Travis Oliphant
- base for almost all scientific python modules including:
 - scipy, scikit-learn, pandas, scikit-image, opencv, matplotlib, and many more...




Travis Oliphant - CEO

- PhD 2001 from Mayo Clinic in Biomedical Engineering
- MS/BS degrees in Elec. Comp. Engineering
- Creator of **SciPy** (1999-2009)
- Professor at BYU (2001-2007)
- Author of **NumPy** (2005-2012)
- Started **Numba** (2012)
- Founding Chair of **Numfocus** / **PyData**
- Previous PSF Director

a review of linear algebra

some common operations in linear algebra

basic numpy operations



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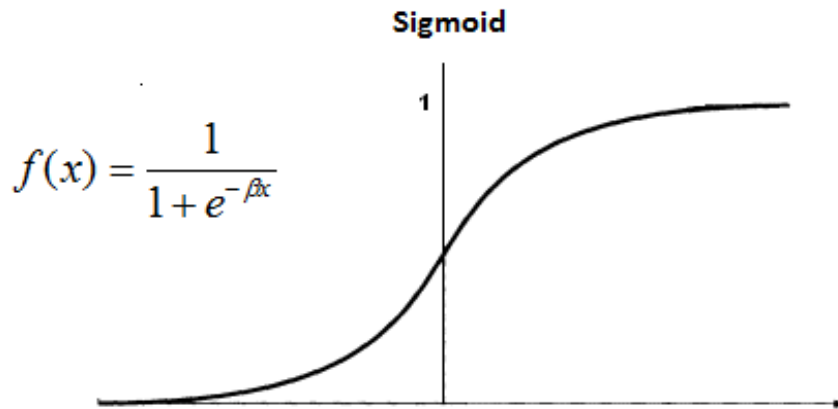
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Unit 4 - III. numpy for optimization

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optimization with scipy/numpy

bonus: basic visualization in matplotlib
adding interactive widgets to notebooks



curve fitting a sigmoid

