Python in a Nutshell

Introdution

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Introduction to Python for Engineering and Statistics
Febraury, 2013

Course outline

The course is structure on four parts:

1. Python: language, structure, mutable/inmutable objects, functions.
2. Numpy and plotting (Matplotlib and Mayavi)
3. Scipy. Simpy.
4. Scikits. Machine learning with Scikit-learn. An eigenfaces session with scikit-learn

Scipy Lecture Notes

Some parts of this seminar contains text and material from http://scipy-lectures.github.com's Scipy Lecture Notes. This is an open-source python course project for creating teaching material on the scientific Python ecosystem, central tools and techniques.

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Manel Velasco graduated in maritime engineering in 1999 and received the PhD degree in automatic control in 2006, both from the Technical University of Catalonia, Barcelona, Spain. He has been involved in research on artificial intelligence from 1999 to 2002 and, since 2000, on the impact of real-time systems on control systems. His research interests include artificial intelligence, real-time control systems, and collaborative control systems, especially on redundant controllers and multiple controllers with self-interacting systems.

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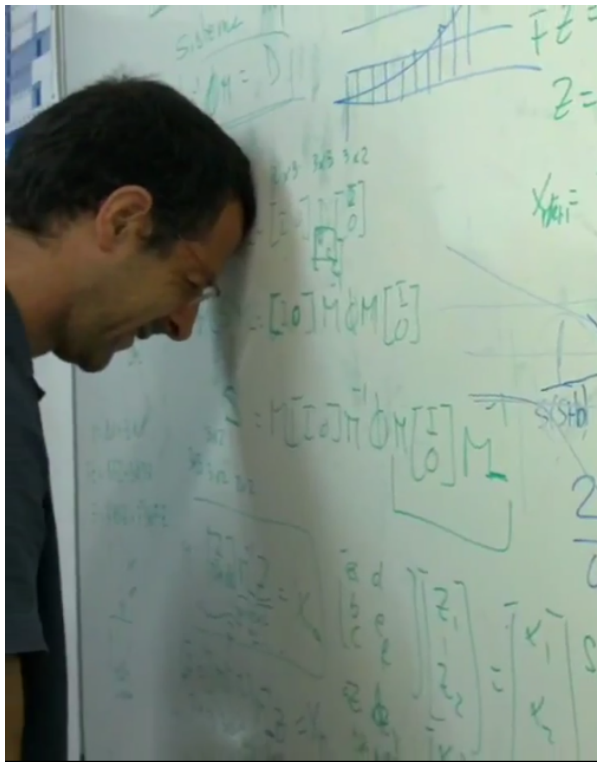

Alexandre Perera, PhD

Alexandre Perera-LLuna graduated in physics at University of Barcelona at 1999 and in electrical engineering at 2001, he received a PhD degree in physics from the same university in 2003. He stayed as a postdoctoral fellow at Texas A&M University (USA) and in Universitat Politècnica de Catalunya(Spain) as a Ramon y Cajal Fellow from 2008-1012. His main area of expertise covers machine learning, statistical analysis, and data mining in biomedical systems, bioengineering and bioinformatics. He is an Associate Professor at Universitat Politècnica de Catalunya-BarcelonaTech (UPC).

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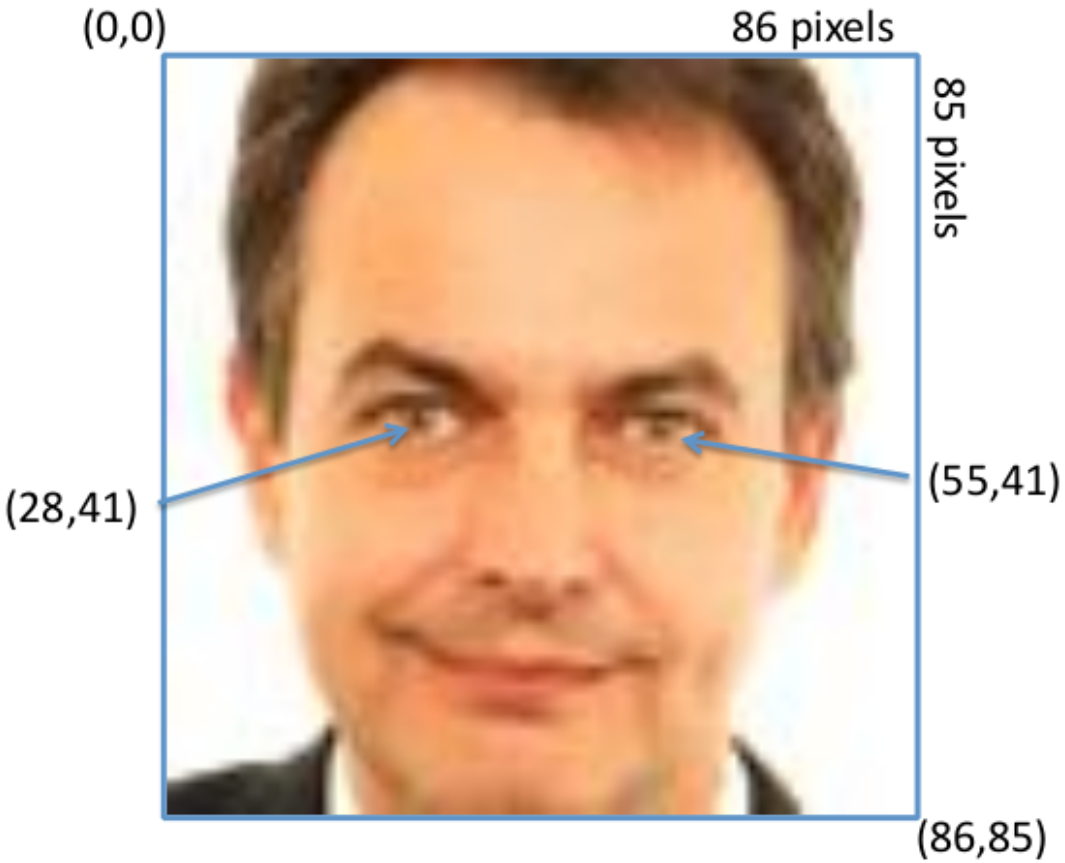
About this course

- All material has been prepared with LaTeX and edited on Vim by disgrace of Alex (an emacs guy).
- Python snippets have been embedded into LaTeXwith help of Pweave, developed by Matti Pastell.
- All Python code and results has been highlighted through *minted* package, developed by Konrad Rudolph, the *python syntax highlighter* Pygments, and custom build bash hacks because the world is not really perfect.

For practical sessions



Let's start!