

# Python in Science and Engineering Education in India

Prabhu Ramachandran

Department of Aerospace Engineering  
IIT Bombay



# Motivation

- ▶ National Mission on Education through ICT
- ▶ MHRD – Ministry of Human Resources Development
- ▶ Improve state of education at the college level
- ▶ \$ 1 billion for entire project
  - ▶ 60% for internet connectivity
  - ▶ Remaining for content
- ▶ One of the line items in mission document:  
**Minimizing use of commercial software tools in education**

# FOSSEE – <http://fossee.in>

- ▶ Free Open-source Software for Science and Engineering Education
- ▶ Focussing on Python and Scilab
- ▶ Goals: Increase adoption of Python/Scilab in the engineering/science curriculum
- ▶ Project started in May 2009 and runs for 3 years
- ▶ Initial funding for one year at about \$200,000

# Approach

- ▶ Get Python in the syllabus
- ▶ Design new courses that cover Python and basic software engineering
- ▶ Modify existing courses using commercial software or introduce FOSS tools
- ▶ Improve documentation: slides, hand outs, books, screencasts, videos
- ▶ Conduct training workshops for teachers and students
- ▶ Conduct conferences – <http://scipy.in>
- ▶ Help FOSS projects by adding documentation and features

# What we have done so far

- ▶ Live Python DVD bundling all the Python related software (see <http://fossee.in>)
- ▶ 5 Python workshops so far at various places
- ▶ Several more coming up
- ▶ SciPy conference in India in December

# Future plans

- ▶ A task based site for community contributions to various projects along the lines of GSOC
- ▶ Free online certification/courses for Python
- ▶ Advanced course on Python for scientific computing