Welcome

Day 1 - Intro

Some Facts About This Course

- Course credits: 3 hp

- Course material: github.com/uu-python/

- The teachers:

  - Filipe Maia (filipe.maia@icm.uu.se)
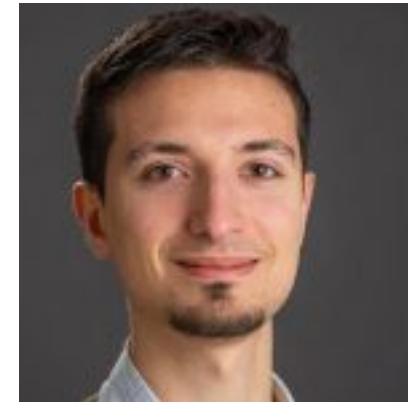

  - Tomas Ekeberg (tomas.ekeberg@icm.uu.se)

- Teaching assistants:

  - Alfredo Belissario (alfredo.bellisario@icm.uu.se)

  - August Wollter (august.wollter@icm.uu.se)

- Coding project at the end of the course

Why Did We Create This Course?

- Modern research involves a lot of programming

- Many of us use Python, Matlab, … to analyse data

- But, most of us are Researchers, not Programmers

- Software engineers over the years have developed many useful tools

- Most of them are quite simple to use (at least we think that)

- You might not agree with us, but we hope you do after this course

- So, our goal is to introduce you to the most common tools of professional software engineering …

- …and help you become more efficient programmers!

Course Schedule

Day	Time	Topic
Monday	09:15 - 12:00	**Basics:** An introduction to the UNIX shell, interactive Python and git repositories
Monday	13:15 - 16:00	Hands-on exercises
Tuesday	09:15 - 12:00	**Best practises I:** Organising, debugging and profiling code
Tuesday	13:15 - 16:00	Hands-on exercises
Wednesday	09:15 - 12:00	**High performance computing:** Speed optimization using Numpy, Python, MPI and GPU acceleration
Wednesday	13:15 - 16:00	Hands-on exercises and coding project
Thursday	09:15 - 12:00	**Best practises II:** Testing, documenting, and packaging code
Thursday	13:15 - 16:00	Hands-on exercises
Friday	09:15 - 12:00	**Data Containers:** HDF5 and Pandas
Friday	13:15 - 16:00	Hands-on exercises

Deadlines

Task	Deadline
Post on Slack link to the GitHub repository of your project, including a README.md with the Project description	This Wednesday 23:59
Post a link to the repository of your exercise solutions, including the solution for the day 1 exercises	Next Week Monday 23:59
Solutions to day 2 exercises due	Next Week Tuesday 23:59
Solutions to day 3 exercises due	Next Week Wednesday 23:59
Final project deadline	Next Week Friday 23:59

Communication Tools

- This year the course will be fully online

- We'll use Zoom for the lectures

- The Zoom link will be the same for every lecture:
  https://uu-se.zoom.us/j/68270721490

- We'll also use a Slack workspace for feedback during the exercises and project.

- You should have received an invitation but here's the link again
  https://join.slack.com/t/advancedscien-kxs5703/shared_invite/zt-m0es9gfa-qBZIDIOCjHMi0x82lDVCfA

Coding Project

- Take some of your own code and improve it!

- This could mean:

  - Transform your code into a Python library

  - Improve documentation

  - Add proper test functions

  - Optimize your code for speed/memory usage

  - Your own idea on how you would like to improve it

- Do all development from beginning to end on GitHub

- Submit by emailing to us your repository

- No ideas what to work on: check some on http://bit.ly/2TfsY3x

- For our last lecture on Friday, we would like to give a chance to send us your own code examples or problems

- We will try to answer and analyze as many as possible

- Anything related to Programming and/or Python works

- Just email us what you would like us to cover until Wednesday

You can post your problem / question on the Slack channel

Online Feedback

- We'll use Socrative in this course

- Go to https://socrative.com

- Click on Student Login

- Choose room "UU1"

Was is easy to find and answer this question?

socrative
UU1

Any Questions?

…Ok Then, We Are Almost Ready To Start!

Just A Few Questions For You...

Just A Few Questions For You...

- Did you all bring your own laptop?

- Are you all connected to power?

- Do you all have Python installed?

- Do you all have git installed?

- Are you all connected to WIFI?

- Have you all found the lecture notes?

- Hint: they are available here:

  - https://github.com/uu-python/day1-basics