SINGLE DAY WORKSHOP IN PYTHON LANGUAGE

DATE

• 16 MAR 2018 •

LOCATION

• HOTEL LEMON TREE, HI TECH CITY, HYDERABAD •

WORKSHOP OVERVIEW

Python as a high-level programming language is a fast growing programming tool. The main strength of Python is its ability to connect with other software as well as hardware modules. It is especially powerful in its implementation of machine learning modules and handling big data. Its usefulness and popularity can be assessed through the available 119948 additional packages, which almost ensure that a beginner will rarely need to write detailed codes. Python being open source is free and taking a decision to learn or switch to it is only a matter of adaptation and has no cost implications. Python specialized packages such as clinical trials, scikit-survival 0.3, and lifelines are handy for using survival analysis methods. Bayesian analysis in Python is carried out using packages such as BayesPy and pymc3.

Dr. Vikram Pudi from IIIT, Hyderabad and Mr. V Ashwin from GSK, Bangalore, will conduct this interactive workshop. The workshop will begin with an introduction to basics of Python and move to concepts such as, for loops, functions, if-while, lists, trees, arrays and dictionaries, etc. The workshop will be interspersed with examples and exercises, which are generic in nature and some that are from the clinical domain. At the end of the workshop, end users should have a good understanding of the potential of Python and how it can be used in some of the day to activities such as validation, simple number crunching besides others.

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Registration – 9:00 AM to 9:30 AM

Curriculum

Introduction to Basics of Python

- Installation/Usage
- i/o, Strings, Numbers
- IF, WHILE statements
- Functions, Default arguments

Concepts

- Polymorphism
- FOR loop, lists
- Simulating 2D-Arrays
- Trees, Math module
- XML minidom module
- Dictionaries, Shelves, Iteration
- Files, Directory traversal
- Tuples, Mutable/immutable types
- Argument passing in python (by value/reference)
- Call with arg-name
- Variable number of arguments

Introduction to pandas

- Python module to handle SAS dataset operations, i.e. view, summary, merge, sort, describe etc.

Hands-on exercises related to clinical trials

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YOUR TRAINERS FOR THE DAY

Dr. Vikram Pudi

Faculty , IIIT Hyderabad

- Vikram Pudi completed his Ph.D in data mining at the Indian Institute of Science, Bangalore in 2003, with a gold medal. He worked for a year at Yahoo! Inc., Bangalore before choosing an academic career at IIIT Hyderabad.

- His research interests are both in core and applied data mining -- including learning interpretable models, regression and interactive learning. He has worked extensively on applications of data mining in bioinformatics and citation analysis. He publishes in top quality international conferences and journals including AAAI, IJCAI, ICDM, PAKDD, etc. He has also published a textbook on data mining with Oxford University Press that has been well received at various universities. For all his programming tasks, his language of choice is python.

Ashwin Venkat

Biostatistics and Programming manager, GSK Pharma

- Ashwin is a Biostatistics and Programming manager, who works with data management and Statistics & Programming group to deliver high quality clinical trial data to regulatory agencies.He believes and strives towards developing innovative software that enhances productivity and eventually benefits patients. He supports out of the box thinking and is accepting of new ideas.

- Ashwin has been working for GSK Pharma for more than a decade where he has worked on legacy to SDTM data conversions, Analysis and Reporting for Phase I to Phase III studies in various therapeutic portfolios, and currently leads a team of software developers, who together develop and support software written in SAS, Python, Node.js and JavaScript for validating clinical trial data. Ashwin holds a Master's degree in Biochemistry from Bangalore University.

Annual

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