Enthought

ACADEMY

Desktop Application Prototyping
for Scientists & Engineers

About This Course

This is a hands-on course. There will be 20 hours of instruction, exercises, and breaks. In the end, you will not only have learned new concepts, but practiced them.

This course counts toward the Tool Maker Track certification in Enthought Academy.

Certificate Awarded Upon Completion Of Course

Course Overview

Desktop Application Prototyping for Scientists & Engineers is designed to enable scientists to start building quick desktop tools to assist in their research and development efforts.

For instance, it is often useful to create a custom data entry application where data is validated and displayed as it is entered; this kind of tool can improve data quality as well as decrease the costs of data collection.

Another example is a custom interactive data visualization tool that allows a scientist to explore a problem in a novel way.

In this workshop class, we will build both a data entry tool and an interactive data visualization tool. Each student will gain practical experience building working desktop applications.

Packages: chaco, traits, traitsui

Lectures

Desktop Applications for R&D
Introduction, Examples of Use Cases

Review of OOP
Review of Object-Oriented Programming Concepts

Designing a Data Entry App
Data Types, Widgets, Controls, GUI Layout

Making Data Interactive
Initialization, Calculations, Observers

Controlling Data Entry
Validation, Formatting, User Feedback

Designing a Visualization App
Static & Dynamic Visualizations

Making Visualization Interactive
Controls, Linking Visualizations

Mouse Interactions
Pan, Zoom, Select, Annotate

More Complex Apps
Menus, Tabs

Deploying Desktop Apps
How to Share New Tools

Prerequisites

This course requires basic proficiency with Python and the scientific Python stack. Some practical experience with Jupyter Notebooks, NumPy (ndarrays), Pandas (DataFrames), and scientific visualization in Python using Matplotlib are essential to working with the code and concepts presented in this course.

If you have taken Enthought's **Python Foundations for Scientists Engineers**, you have the requisite background knowledge for this course.

About Our Instructors

Enthought instructors have advanced degrees in scientific fields such as physics engineering, computer science, and mathematics, and all have extensive experience through research and consulting in applying Python to solve complex problems across a range of industries allowing them to bring their real world experience to the classroom every day.

By Scientists & Engineers
For Scientists & Engineers