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**Subject:** PyCharm

**Source:**

Pycharm by JetBrains. "Effective Data Science with PyCharm" Youtube, 24 April 2020, https://youtu.be/yoOFYzlOrUs?si=vNHcnoWq9IIBCcLG

Annotations

**Assessment:**

With the knowledge of what programming language I am going to use to create my project, I realized I now need to gather sources to learn more about it and begin creating my program in. After scouring around looking at different applications I found PyCharm to be the best for someone with my beginner level Python programming. It is an application that seamlessly integrates the previous one I was using, Jupyter, and allows for data science to be utilized to its fullest potential while still being beginner friendly.

The video covers reasons why you should use PyCharm over other applications and how to use some of its features. Going over the first reason PyCharm has Scientific mode which provides Interactive Computing, Data Exploration and Visualization (With popular databases like pandas, NumPy, Matplotlib), Variable Explorer, Conda and Virtual Environment Integration, Code Profiling, along with a plethora of other features that make it the perfect choice for someone considering data science. Interactive computing code cells allow for step-by-step execution, making it easy to explore and experiment with data. Visualizations can be displayed directly in the IDE, providing immediate feedback on data exploration and analysis. Scientific mode supports code profiling, helping users identify performance bottlenecks in their scripts. Most importantly Users can inspect data frames and arrays directly in the IDE, making it convenient to explore large datasets.

The video taught me PyCharm stands out as a preferred choice for developing data science programs due to its scientific mode and integrated features tailored for data scientists. The interactive computing environment allows for seamless exploration and experimentation with Python scripts, making it efficient to iterate through data analysis. The Variable Explorer provides a clear overview of data variables, simplifying the inspection and manipulation of data. The integration with popular data science libraries, such as NumPy, Pandas, and Matplotlib, ensures a smooth workflow for tasks like data manipulation and visualization. Conda and virtual environment support streamlines dependency management, while the ability to convert scripts to Jupyter notebooks enhances collaboration. The IDE's comprehensive features, including code profiling, interactive plotting, and support for scientific file formats, contribute to a highly productive and efficient data science development experience. PyCharm's

essential IDE functionalities further solidifies its position as the go-to tool for developing data science programs with ease and effectiveness.

Overall, scientific mode in PyCharm aims to enhance the productivity and workflow of data scientists by providing a comprehensive set of tools within a single integrated development environment. Finally the source covers more resources such as webinars, websites, and forums that you can find more support when trying to figure out how to use PyCharm for your exact purpose. I consider this to be another step in the right direction as I narrow down my research from what programming language, to what application, to what specific code I need to help develop my application. My research will be using PyCharm and build upon topics discussed in the video. Not only will PyCharm teach me to code in Python but how to combine vast databases instead of focusing on a single one, allowing me to avoid placing all my eggs into one basket minimizing risk of wasted time.