Summary for PDF:

This report compares **Python** and **C++**, evaluating their strengths and weaknesses in performance, ease of use, versatility, and application domains. Key points include:

Pros of Python:

- **Ease of Learning & Readability** ? Simple syntax, ideal for beginners.

- **Extensive Libraries** ? Rich ecosystem (e.g., NumPy, Pandas, TensorFlow).

- **Cross-Platform Compatibility** ? Runs on Windows, macOS, and Linux.

- **Rapid Development** ? Faster prototyping and scripting.

Cons of Python:

- **Slower Execution** ? Interpreted language, less efficient than compiled code.

- **Limited Low-Level Control** ? Not ideal for hardware or system programming.

- **Memory Management** ? Less control over memory allocation.

Pros of C++:

- **High Performance** ? Compiled, optimized for speed and efficiency.

- **Low-Level Control** ? Direct hardware access and memory management.

- **Versatility** ? Used in game engines, embedded systems, and high-frequency trading.

Cons of C++:

- **Complex Syntax** ? Steeper learning curve.

- **Longer Development Time** ? Requires more code for simple tasks.

- **Manual Memory Management** ? Risk of errors (e.g., memory leaks).

Conclusion:

Choose **Python** for rapid development, data science, and scripting. Opt for **C++** for performance-critical applications like game development or real-time systems.

Download the full report [here] (PDF link).

(Note: Replace "[here]" with the actual download link.)