

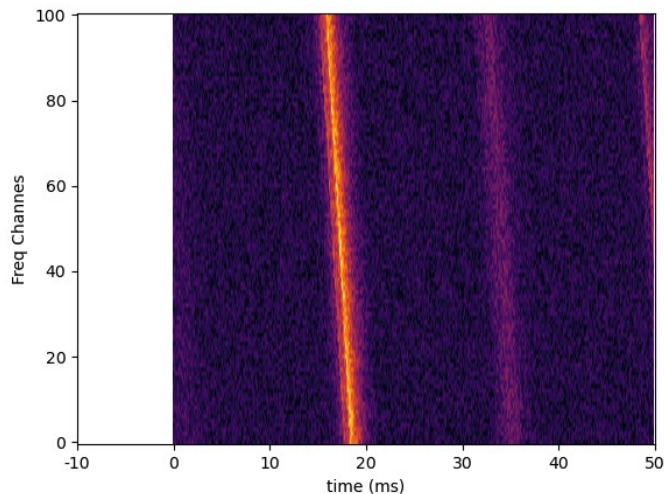
Marcel Trattner

Pulsar Data Analysis

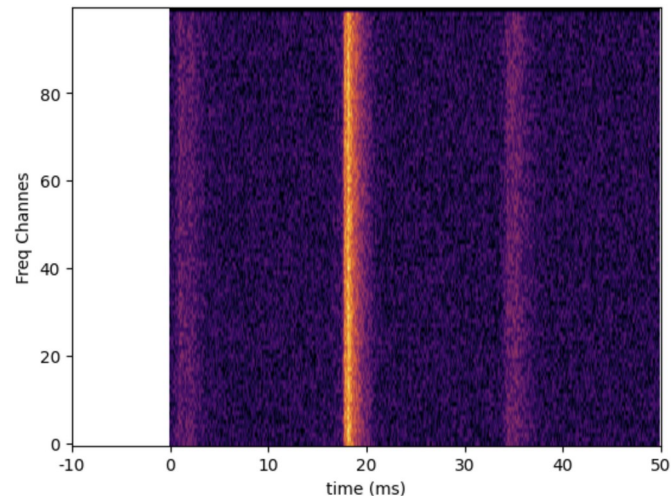
Update on Tool Status

Implementation of Pulsar Simulation

Simulation of Pulsar data is at first conceptualized in Python and then translated to C++ for performance

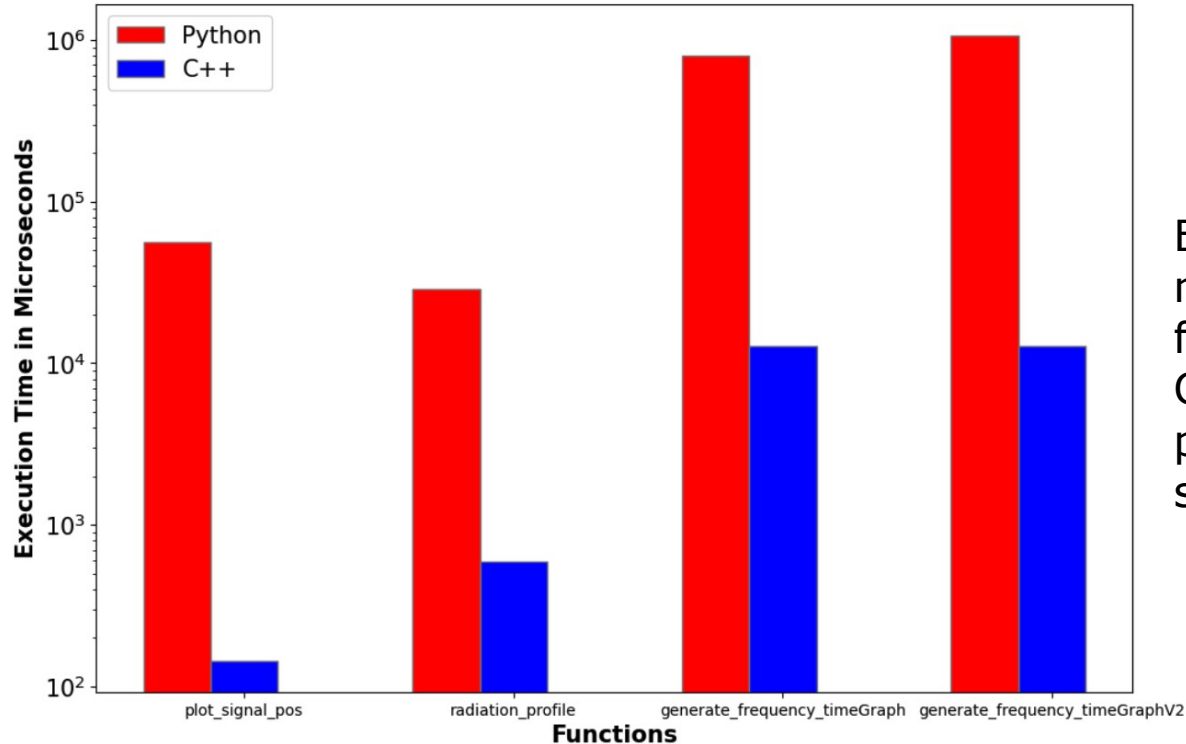


Python simulation:
[Saha, 2023]



C++ translation:
[Trattner, 2023]

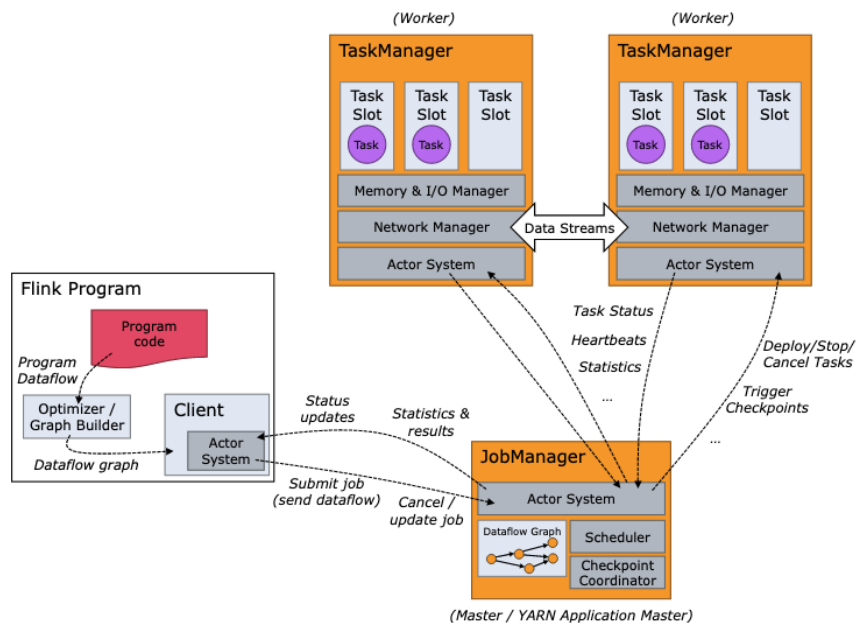
Python vs C++ Execution Time



Execution time in microseconds for different functions in the Python and C++ implementation are plotted on a **logarithmic** scale

Next steps:

Making Decisions for Architecture



- How can performance in parallel processing scale up?
- How can we distribute data chunks to individual workers?
- When is data loaded into memory and can we use this to optimize performance?
- Can we make decisions now that help avoid data lakes?
- Current research object: *Apache Flink* (overview left)



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