ERHVERV AKADEM

Parallel Programming in Python 

Contextualizing Parallel, Concurrent, and Distributed Programming

- Identifying parallel programming problems:
  - Deadlock
  - Starvation
  - Race Condition
- Discovering Python's parallel programming tools & Python GIL

Designing Parallel Algorithms

- Decomposing tasks with pipeline
- Processing and mapping

Using the parallel & concurrent Python modules

- Threading Module
- Multiprocessing & Multiprocessing.dummy Module
- Concurrent & Concurrent.futures Module

Doing Things Asynchronously

- Understanding blocking, nonblocking, and asynchronous operations
- Understanding event loop
- Using asyncio

Using Python Parallel Programming Libraries

- Dask - Parallel computing with task scheduling
- Ipyparallel - Interactive Parallel Computing in Python
- Celery - Distributed Task Queue

Examples / Study cases & Research

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