

# threadpool Features

- **Dynamic resource allocation:** The pool of compute resources can grow or shrink over time
- **Automatic load balancing:** Large tasks (or slow resources) do not hold up processing of other tasks
- **Restartability / Persistence:** Jobs can be stopped and pick up where they left off
- **Dynamic job resizing:** Tasks can be added to jobs without having to start from the beginning

# What is threadpool Good For?

- Jobs that have **embarrassingly parallel** tasks
- Jobs that are relatively **long running** (hours, days, weeks)
- **Batch-queueing** cluster systems with schedulers that constrain the availability of resources
- Jobs where tasks have **heterogenous** (but unpredictable) running times