

The background of the image is a solid blue gradient, transitioning from a darker teal at the top to a lighter blue at the bottom. Overlaid on this background is a complex network of thin, light-colored lines connecting small circular nodes. These nodes and lines are distributed across the entire frame, creating a sense of interconnectedness and data flow. The nodes vary slightly in size and brightness, with some appearing more prominent than others.

# PARALLEL DATA PROCESSING

# Concurrency is hard



We had an engineer at Mozilla who decided to use a thread sanitiser tool to look for data races [in our C++ codebase] ... and he found that in every case where Firefox used threads, there were data races. Not most cases - every single case.

*- Jim Blandy*

## CoRecursive podcast: Rust and bitter C++ developers

# Concurrency issues? Use immutable data structure



1.



2.

# Plan

- Implement a parallel collection
- Analyse a large dataset of global temperatures by cities
- Learn Scala features:
  - For loops
  - Recursions
  - Enumerations
  - Future