UNLOCKING NEW SOLUTIONS FOR NEURODEGENERATIVE DISEASES.

Background

Biotech company GenieUs Genomics (GenieUs) developed the Deep Integrated Genomics Analysis Platform (DiGAP™), a comprehensive bioinformatic tool for analysing short-read and long-read whole-genome sequencing, paving the way for breakthrough treatments for neurodegenerative diseases.

Challenges

Some of the biggest challenges GenieUs faced were the long process times for each sample, which were taking around three days to complete, and the large size of datasets making unit testing difficult. These resulted in a backlog of unprocessed samples that were impeding research efforts.

Solutions

We provided GenieUs researchers with our tailored high performance computing (HPC) expertise and workflow-optimisation support, which enabled the dynamic allocation of compute nodes and storage as demand required.

We also crafted a compliant environment that supported continuous integration with GenieUs' preferred development and version-control software.

Results

The dynamic, on-demand allocations allowed GenieUs researchers to identify how to optimise the use of HPC resources for their specific genomic data analysis needs—improving the speed and efficiency of their computational workflows.

With substantial performance improvements and reductions in memory consumption, they were able to process significantly more genomic samples in a shorter time frame—with some parts of the workflow up to 60 times faster!

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