

IGNITING INNOVATION

Democratizing HPC and AI with Dell EMC

CREATING TECHNOLOGIES THAT DRIVE HUMAN PROGRESS



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High-Performance Computing , South Asia

The **Business** Challenge

To compete in a global economy, researchers need to turn to high-performance computing to:

move
MAINSTREAM

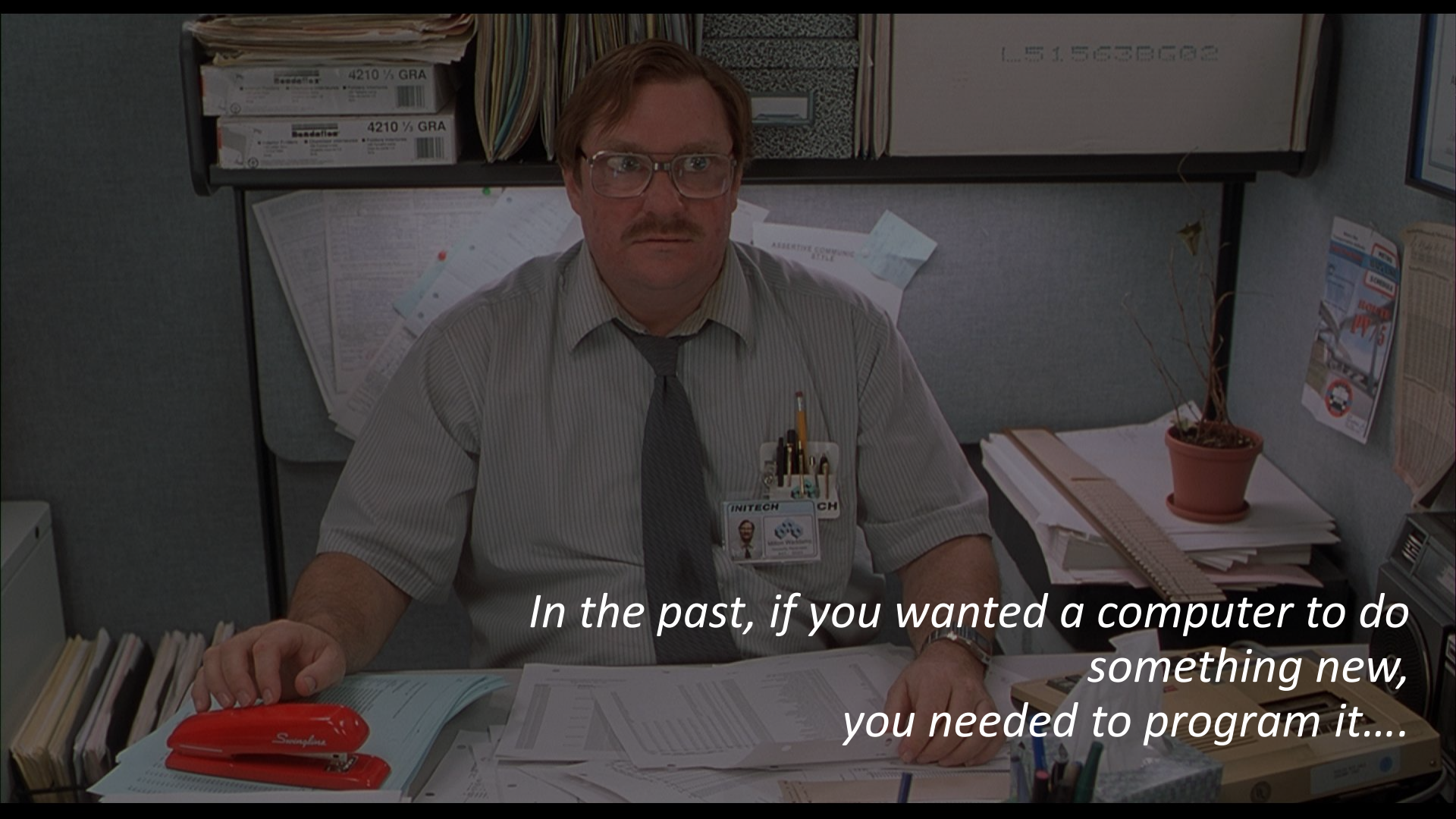


drive
PROFITABILITY



accelerate
INNOVATION



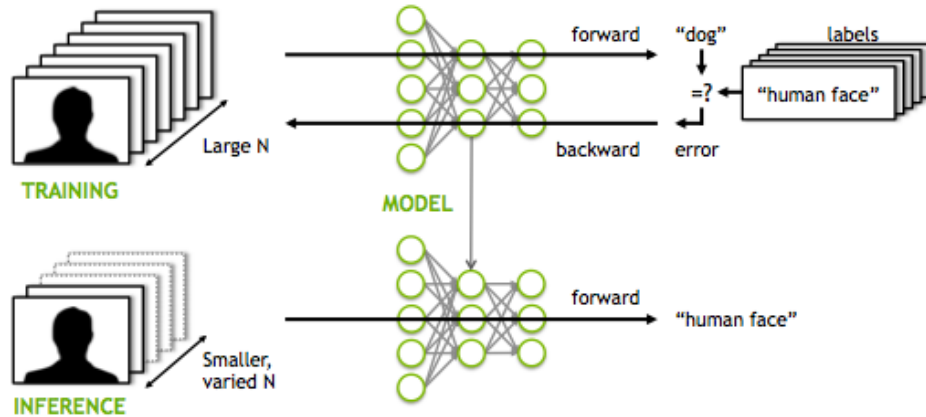


In the past, if you wanted a computer to do something new, you needed to program it....

INTRODUCING DEEP LEARNING

Machines can now use algorithms that iteratively learn from data, to find insights without being programmed where to look.

It is a branch of artificial intelligence, which uses data to evolve, and learn. More data enables the systems performance to improve.



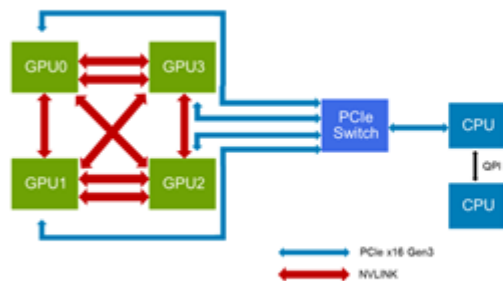
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We have access to data. We ask questions. We make predictions. We make decisions.

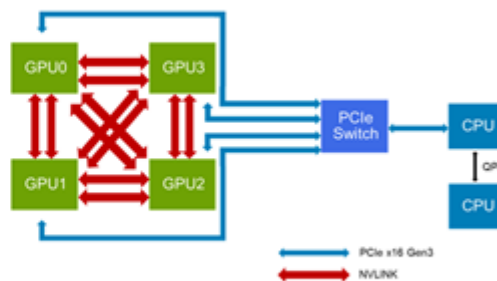
THE COMPUTATIONAL POWER IS HERE

Building on PowerEdge success

- Support for 4 NVIDIA V100 SXM2 GPU (CHASSIS K)
- Up to 300GB/s GPU Peer-to-Peer Bandwidth
- Up to 31 TFLOPS of double-precision performance (FP64)
- Up to 500 TFLOPS of Deep Learning performance (INT8)



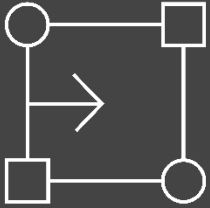
C4130 ConfigK with P100



C4130 ConfigK with V100

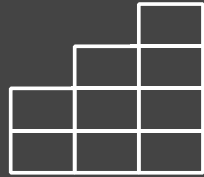
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ENABLING TOMORROWS **INNOVATIONS TODAY**



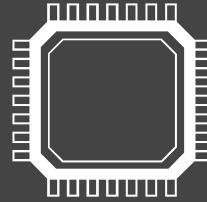
DRIVING DISCOVERY

Focus on your core competencies, with our validated and workload optimized systems



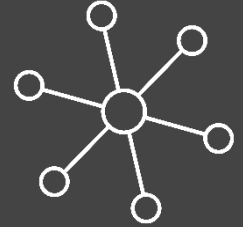
FLEXIBILITY

Designed to support compute and data intensive workloads on a single platform



EFFICIENCY

Optimized from the ground up to accelerate a variety of workloads with sustainable performance

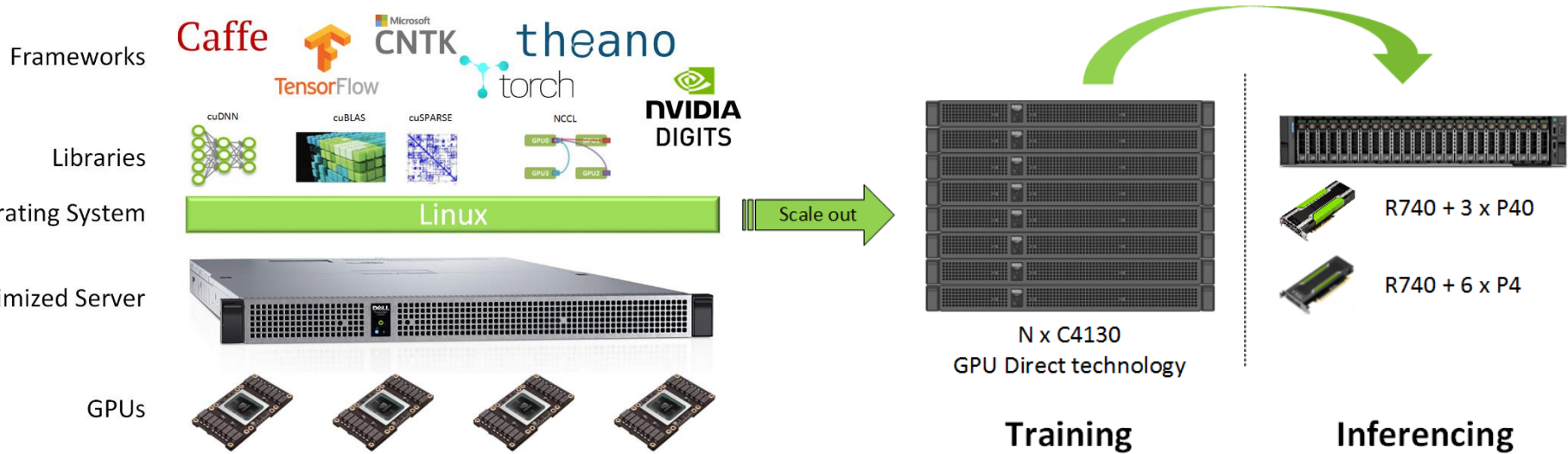


SCALABILITY

From workstations to Supercomputers, our solutions will drive a new level of innovation

INTRODUCING THE **DELL EMC POWEREDGE AI STARTER KIT**

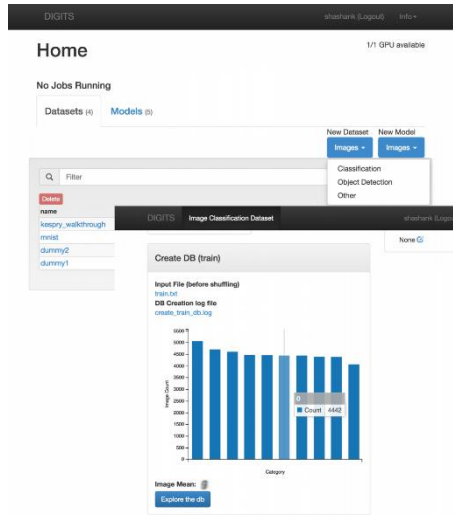
“Designed for Compute-Intensive, and Data-Intensive workloads”



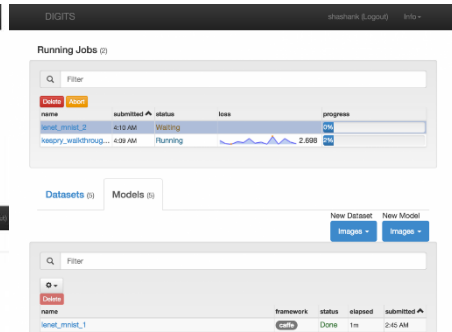
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DELL EMC POWEREDGE AI POWERED BY NVIDIA DIGITS

Process Data



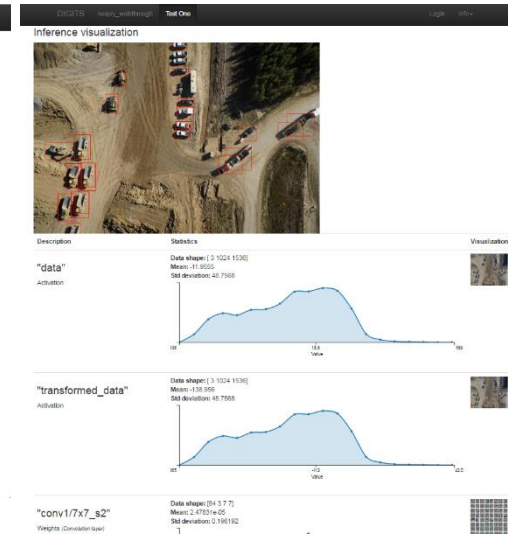
Configure DNN



Monitor Progress

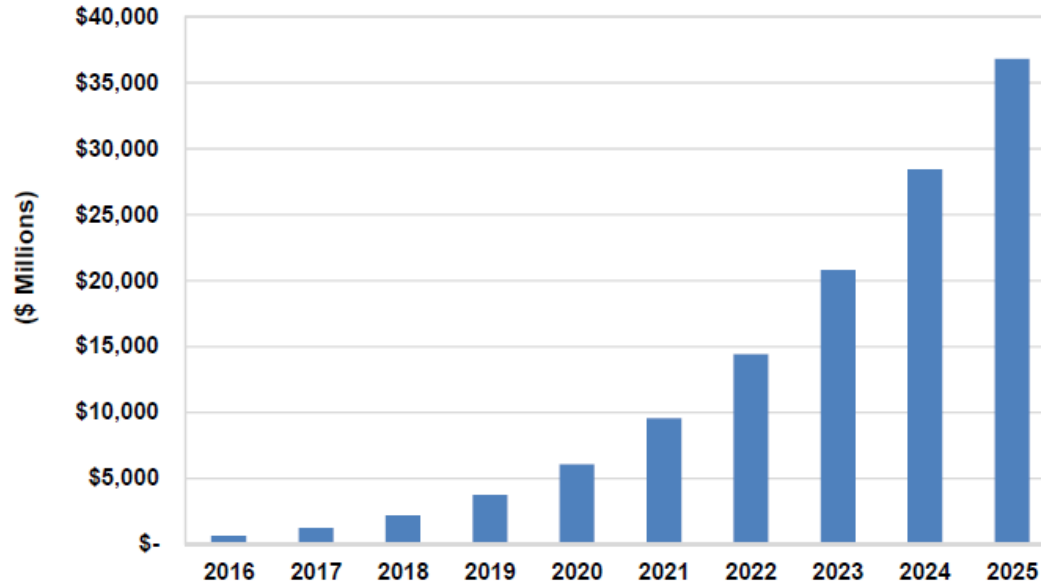


Visualize



A \$500B OPPORTUNITY OVER TEN YEARS

Chart 1.1 Artificial Intelligence Revenue, World Markets: 2016-2025



(Source: Tractica)

The Chinese Academy of Science, Institute of Automation



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THE Dell EMC ARTIFICIAL INTELLIGENCE LAB, AT CASIA

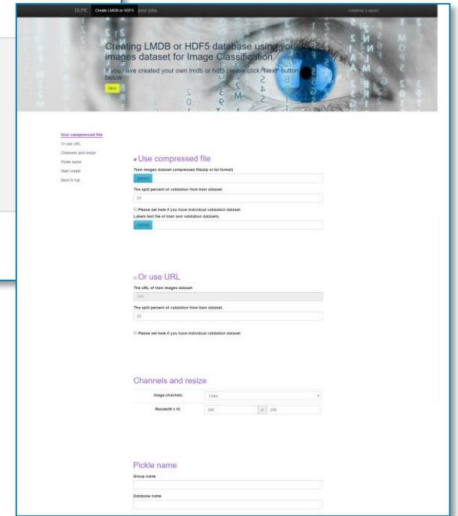
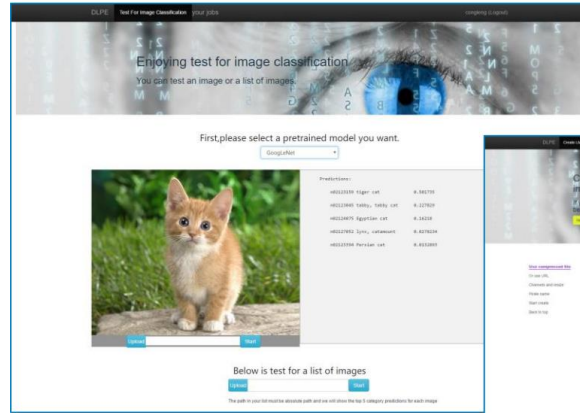
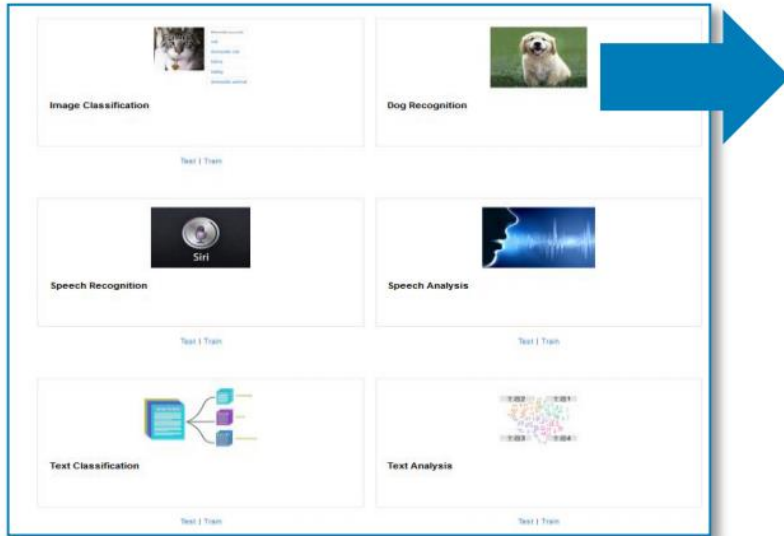
Nov 3, 2015 - The grand unveiling ceremony for the Artificial Intelligence and Advanced Computing Joint-Lab by the Institute of Automation, Chinese Academy of Sciences (CASIA) and Dell China was held in Beijing. **Marius Haas**, Chief Commercial Officer and President, Enterprise Solutions of Dell; **Chenhong Huang**, President of Dell Greater China; and **Xu Bo**, Director of CASIA attended the ceremony and presented speeches. 17 influential media outlets from the general public, national news wires and portals, business and IT fields attended the ceremony



INTRODUCING THE ZhuGe SYSTEM



GUI FOR EASY UP TAKE OF ZhuGE



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CSIRO AND DELL EMC PARTNER TO BUILD **AI SUPERCOMPUTER**

MISSION

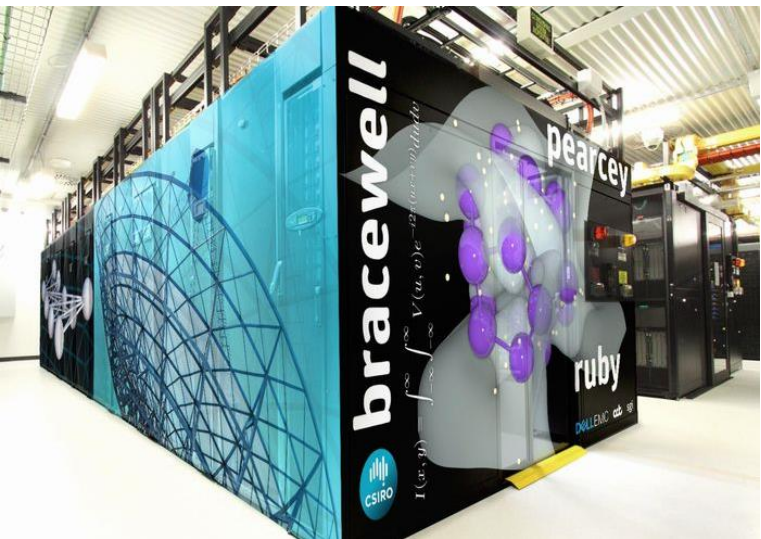
To help drive economic and scientific advancement, CSIRO must provide its scientists, engineers and researchers with new capabilities that are world leading and able to process data faster than existing platforms

SOLUTION

The new 'Bracewell' AI Supercomputer is built on the PowerEdge C4130 and networking, enabling the execution of up to 1.8 quadrillion calculations per second, and data movements of 160GB/s

BENEFITS

- A turn-key platform that can deploy optimized and pre-tuned artificial intelligence frameworks in minutes
- Enables scientists to build technology and scientific solutions that will drive human progress, with the power of open source artificial intelligence
- Dell EMC ProSupport Engineers will provide 24/7 expert level support for the Bracewell Supercomputer, ensuring CSIRO researchers focus on their core competency, while knowing their Supercomputer is in good hands
- Reduces carbon footprint by minimising CO2 emissions by carefully considering heating, cooling, and a very high performance per watt ratio of power consumption
- Processing power 5 times more affordable than the public cloud, that helps CSIRO to invest in science infrastructure and outcomes



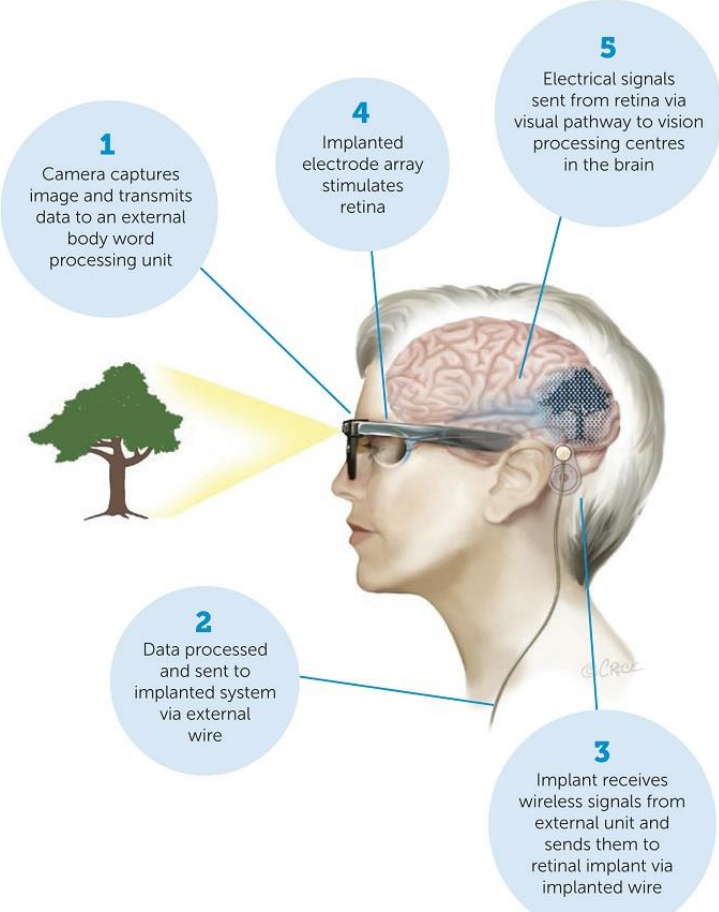
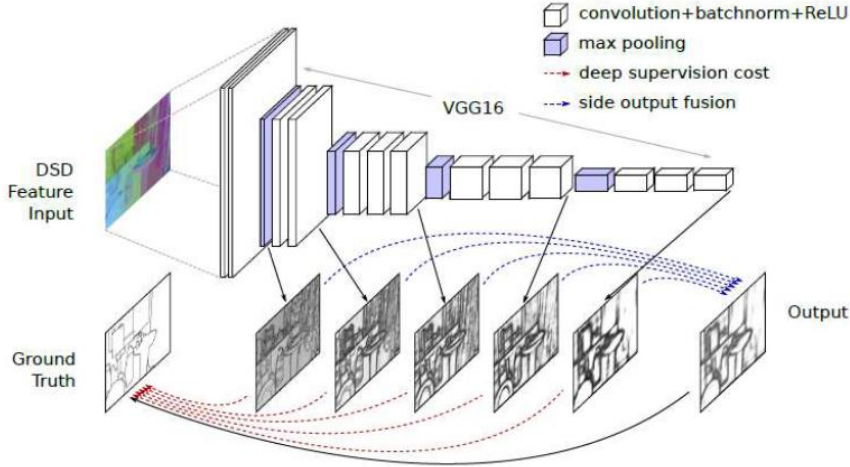
“The power of this new system is that it allows our researchers to tackle challenging workloads and ultimately enable CSIRO research to solve real-world issues.”

Angus Macoustra

Commonwealth Scientific and Industrial Research Organisation



ENABLING BIONIC VISION AUSTRALIA



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MEETING **REAL-LIFE**, WORKLOAD SPECIFIC HPC CHALLENGES

Innovation Lab focus



- Design, develop and integrate HPC systems
- Act as the focal point for joint R&D activities
- Conduct application performance studies and develop best practices
- Prototype and evaluate advanced technologies



- Flexible reference architectures
- Systems tuned for vertical solutions



- Technology collaboration with partners
- Research coordination with DSC, COEs and customers



- Read published findings on the Dell HPC TechCenter



- HPC + Cloud
- HPC + Big Data
- Processors
- Accelerators
- File systems
- Software

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