ADVANCED COMPUTING PLATFORM

Monash University Malaysia's Advanced Computing Platform (ACP) provides a research infrastructure with high-performance computing services, reducing the time taken for computationally intensive tasks.

It caters to multidisciplinary research in natural and social sciences, aiming to publish outcomes in esteemed journals and conferences.

Funded by the University's Research Excellence Unit and overseen by the School of Information Technology, the platform is research-focused and applied in various fields including computer vision, image processing, optical network, machine learning, pattern recognition, combustion, turbulent flow, nanomaterial, genome analysis, and disease association studies.

EXPERTISE

Our team provides specialised expertise in leveraging the Advanced Computing Platform (ACP) to advance research in the exciting field of artificial intelligence (AI). With a deep understanding of AI algorithms, machine learning techniques, and neural networks, we harness the power of the ACP's high-performance computing services to drive groundbreaking AI research. From computer vision and image processing to natural language processing and predictive analytics, our team excels in applying AI methodologies across diverse domains.

KEY INSTRUMENTATION

Our instrumentation within the Advanced Computing Platform (ACP) is specifically designed to empower research that require big data analytics and artificial intelligence, which include:

- High-performance computing clusters for efficient and accelerated computations
- Specialised hardware accelerators for advanced AI and data processing tasks
- Optimised frameworks and libraries for machine learning, deep learning, and data analysis
- Advanced tools for data preprocessing, feature engineering, and exploratory data analysis
- Support for computer vision techniques, including image recognition and object detection
- Natural language processing capabilities for tasks like sentiment analysis and text classification
- Scalability to handle large datasets and train complex AI models
- Integration with big data frameworks for processing and analysing massive data sets
- Cutting-edge technology to drive innovative research in AI, data science, and related fields.

WORKING WITH US

- Fee for service
- Consultancies
- Collaborative research
- Training

Specialist Services

Our platform's specialist services also include providing software application expertise for conceptualising, planning, developing, troubleshooting, and supporting projects on the HPC. We collaborate with HPC users and researchers to advance their expertise in software applications, focusing on tools such as Ansys, Discovery Studio, GROMACS, LAMMPS, VASP, Quantum Espresso, OpenFOAM, deep learning frameworks (PyTorch, TensorFlow, Keras), genomics applications (GATK, BCFTool, BEDTool), and MATLAB. Additionally, we explore emerging technologies and maintain collaborative relationships with peer HPC research organizations to address evolving analytical requirements in the HPC field.

Specialist Service #1: Internal And External Services

- Internal researchers have complimentary access to high-performance computing clusters, specialised hardware accelerators, and advanced tools. External researchers can also access our platform for a fee, benefiting from our cutting-edge infrastructure and specialist services.

Specialist Service #2: Consultancies

- Our experienced HPC specialists collaborate closely with researchers, offering technical advice and optimising workflows. We assist researchers in conceptualising, planning, and troubleshooting projects, maximising the utilisation of platform resources, software applications, and specialised tools.

Specialist Service #3: Collaborations For Researches

- Through collaboration, we aim to leverage the capabilities, expertise, and resources of our platform to jointly tackle complex research challenges in fields such as AI, data science, and related domains. Collaborative research projects involve close collaboration between our platform's specialists and researchers, with a shared goal of achieving impactful research outcomes. Such collaborations often result in valuable insights, joint publications, and innovative research breakthroughs, benefiting both parties involved.

Specialist Service #4: Training Programs

- Our platform offers comprehensive training programs to researchers, equipping them with the necessary skills and knowledge to effectively utilise the platform's resources, software applications, and specialised tools. These training programs cover various aspects of high-performance computing, data analytics, and AI technologies. Researchers can participate in workshops, seminars, and hands-on training sessions conducted by our experts. The training programs aim to enhance researchers' technical proficiency, enabling them to maximise the potential of the platform and conduct cutting-edge research.

Advanced Computing Platform

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