



Australia's Global University

Specializing Blockchain for Supply Chain and Enterprise AI applications

UNSW@ADFA



The Logistics Research Group is a world wide collaborative research centre with international standing in research excellence in Logistics. The Group works at the intersection between IT and Business, as well as other human endeavours encapsulated by its motto of "creating value by making connections".

More information

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Logistics Innovation and Information Dominance Research

(LIIDR = Leader)

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Blockchain enables Supply Chain Trust that always needed but never had:

- Blockchain enables the Logistics network a distributed trust network.
- Blockchain enables tracking the provenance of goods, services, accountability, risks, security and information through smart contract, proof of work, consensus and immutability.
- A new Blockchain approach for Risk Management for Defence Enterprise has been developed as part of the collaboration between the Department of Defence and UNSW@ADFA and a patent application has been submitted

Recent research projects

CARM: Blockchain enabled Compliance and Assurance Risk Management – The world's first Track and Trace of Risks and Accountability using Blockchain, a joint co-authored book between Defence and UNSW is coming soon by Springer in 2018 on Blockchain for CARM.

Dairy Blockchain: A Dairy Blockchain for Smarter Farm powered by AI and IoT for Real Time Monitoring and Situation Awareness of Dairy Products.

Successful applications

- **CARM** project is proudly supported by the Department of Defence from 2017 and the trial of the CARM Solution started 12 July 2018 with the Department's Land Division.
- **Dairy Blockchain** An innovative deep learning neural network has been developed to mine the blockchain data captured through farm Vat and Logistics sensor networks. A deep neural network is to learn the milk quality and bacteria growth, demand and supply time series, randomness and nonlinearity demand, optimal farm configuration, logistics, factories and road transports. The project is an output of ARC-Linkage Project serves over 300 farmers in Queensland and NSW.

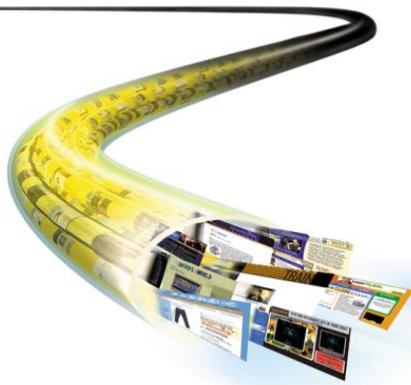




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Data Lake, Conjoint Data Mining and Mobile Enabled Cognitive Decision Support Systems

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Our Logistics Team



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The biggest issue for large Enterprises today is not competition but Legacy system modernization, data analytics and security, including:

1. Heterogeneous Systems Integration and conjoint data mining from multiple information sources
2. Spatial Situation Awareness with end-to-end visibility.
3. Cognitive Decision Support leading to maximum automation.
4. Special skills in Data Lack, micro-service, Docker and container, and Elastics Search of heterogeneous data sources
5. Conjoint Data mining, predictive analytics, ontology and semantics reasoning.
6. IoT and Mobile Edge Computing for data supply chain and BI solutions

Recent research projects

Faceplate – An RI Dashboard: A Cognitive Decision Support RI System for Defence Logistics Intelligence – empowered by Data Lake, conjoint data mining and mobile edge computing.

Army Capability Recommender System: Towards Human-Centred Recommender System in Army Logistical Environment

Successful applications

- **Faceplate – An RI Dashboard:** The project is proudly funded by the Department of Defence in 2015-2017. The proof of concept demonstrator has completed and uploaded to the UAT server for User Acceptance Testing since late 2017. There were over 10 Keynote invitations and a new authored book on RI for Capability Sustainment is to appear in spring 2018.
- **Army Capability Recommender** is proudly funded by the Army Research. The prototype system has been regarded as 'Plan B' for heterogeneous system integration. See detail from Australian Army Journal Spring, Volume XIII, No.2.2017

We are proud to have researchers and graduates of various cultures, from different disciplines and countries - a microcosm of modern group, representing a diverse yet

homogeneous community that displays extraordinary vitality and dynamism. We focus on applied research and develop advanced solutions using enabling technologies.



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