UTS: FACULTY OF ENGINEERING AND IT

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UTS Domains:
Architecture, business, engineering, design, information technology, law, science, health, pharmacy, biology, sustainability.
IOT – COMMUNICATIONS - NETWORKS

- Wireless Mesh
- Wireless Body Area Networks
- 4th Generation Cooperative Networks
- Sensor networks
- Cognitive Wireless Networks
- Reconfigurable multiband antennas
- Image radar and radio holography
- Full duplex wireless communication
- High speed microwave, mm wave and terahertz
- Rural and remote communication
- Urban sensing for smart cities
- Intelligent transport systems and vehicular networks
- Next generation mobile communication systems
- Wireless localization techniques
- Combination of wireless and video detection

mm-wave technology for 5G
- For access
  - Small cells with steerable antenna array
- For backhaul
  - point-to-point and point-to-multipoint links

activity recognition
Bayesian non-parametric switching models for recognising sequences of activities

Tracking in depth video under heavy occlusions
AUTONOMOUS SYSTEMS, ROBOTICS, HEALTH TECH

- Robots in unknown and complex environments
- Human-robot interaction
- World 1st fully autonomous robots for bridge maintenance
- World 1st bio-inspired autonomous climbing robots for steel structure inspection
- Robot teams technology used in the world 1st fully automated container Terminal
- Robotic co-worker for manufacturing
- Robotic wheelchair
- Smart hoist for patient transfer
- Robots for manufacturing, mining.

Blood pump for chronic heart failure

Steel structure inspection robots

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WATER – GREEN INNOVATION

- Wastewater treatment and re-use technologies
- Alternative water sources
- Advanced membrane processes
- Catchment water resources
- Socio-Hydrology
- New membranes and materials fabrication
- Wind turbine generators
- Smart micro-grids
- Renewable energy
- Ethanol fuel in a small spark ignition engine
- Clutch-less power shifting transmission
- Powertrain configurations
- Energy management strategies
- Electrical drive systems

What’s it like?

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DATA ANALYTICS – DATA VISUALISATION

- Data arena
- Childhood cancer diagnosis: leukaemia and neuroblastoma
- Mobile health applications
- Analysis of genomic sequences
- Health data analytics for decision-support
- Social Media Sentiment Analysis
- Cyber-bullying prevention
- Customer profiling and segmentation, sales trend analysis and sales forecasting

UTS data arena

Leukemia diagnosis

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UTS:Rapido creates prototypes leveraging UTS technologies and expertise to achieve innovative visions brought by industry partners.

- Experience and evaluate new concepts
- Mitigate innovation risks
- Build whole concepts combining technologies from different fields
- Use case specific data
- Technology transfer services

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THANK YOU

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