ASD

AUSTRALIAN SIGNALS DIRECTORATE

BYTE CLUB

The first rule of Byte Club is...

SOFTWARE DEVELOPER CAREERS >

Advanced Mathematics

Cyber Security

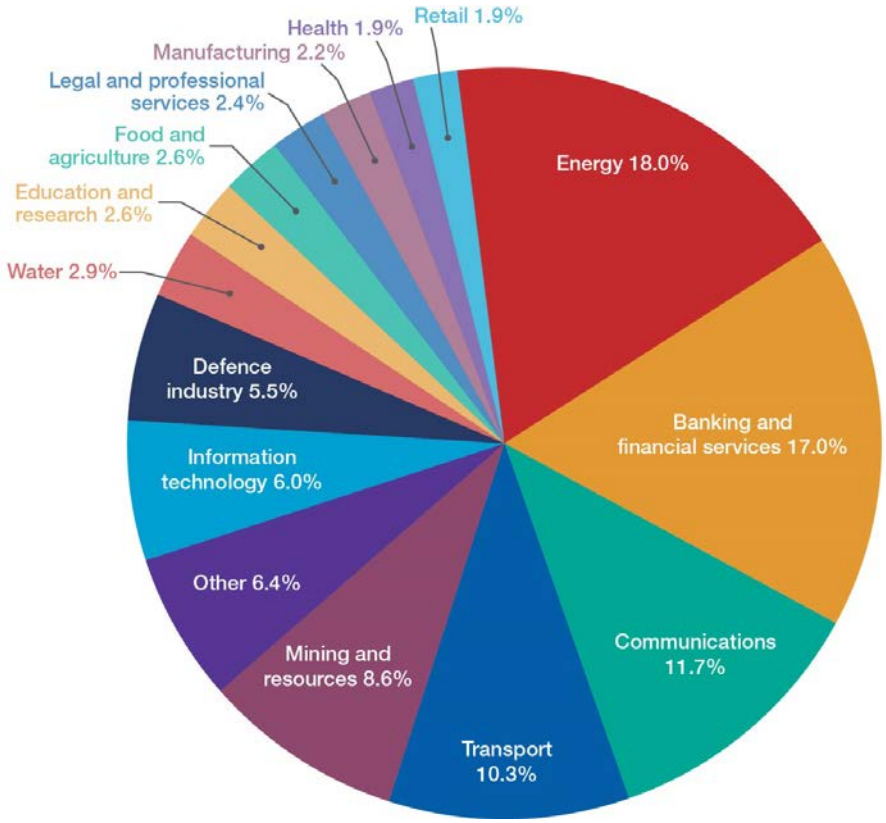
ACSC
AUSTRALIAN CYBER SECURITY CENTRE

DATA SCIENCE & ENGINEERING BRANCH

ACSC
AUSTRALIAN CYBER SECURITY CENTRE

We work to protect:

- Australian governments
- The private sector
- Critical infrastructure



From:

- Cyber espionage
- Cyber crime
- Issue motivated groups

Case study

ACSC
AUSTRALIAN CYBER SECURITY CENTRE

ABC NEWS

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Bureau of Meteorology target of 2015 cyber attack, Prime Minister Malcolm Turnbull confirms

By political editor Chris Uhlmann

Updated 21 Apr 2016, 2:38pm

The Federal Government has confirmed for the first time the Bureau of Meteorology was the target of a cyber attack.

Last year, the ABC uncovered a state-based intrusion into the Bureau of Meteorology that infected its entire computer network.

The threat is persistent, aimed at stealing information, and will cost hundreds of millions of dollars to fix.

How we combat these threats

- Cyber security incident response
- ICT system forensics and specialist assistance
- Vulnerability assessments
- Education and awareness
- Publications

DATA SCIENCE & ENGINEERING BRANCH

Data: Technology, Engineering and Science

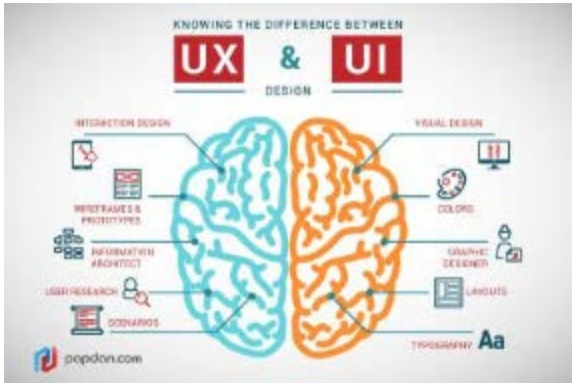
ASD

Data Science Domains

- Computer Security
  - Abnormality recognition (APT)
- Audio processing / modelling
  - Language modelling, speaker modelling
  - Speech to Text [linguistics]
  - Code switching [linguistics]
- Image / Video processing & modelling
  - DNN approaches with acceleration
  - Face / Scene / Object / Text recognition

Data Science Domains

- Computational Linguistics [reducing search space]
  - Triage / topic modelling
  - Semantic understanding



- Ux [deploying AI/ML effectively]
  - ML mediated Ux
  - Personalised Ux for DS/AI

- Visualisation of complex data
  - **Open Sourcing through Data 61**

- HPC-based ML
  - **Needed for scaling out**

"Scale of the data and required compute prioritises sub-optimal approaches with feasible computational cost over optimal approaches with high computational cost"

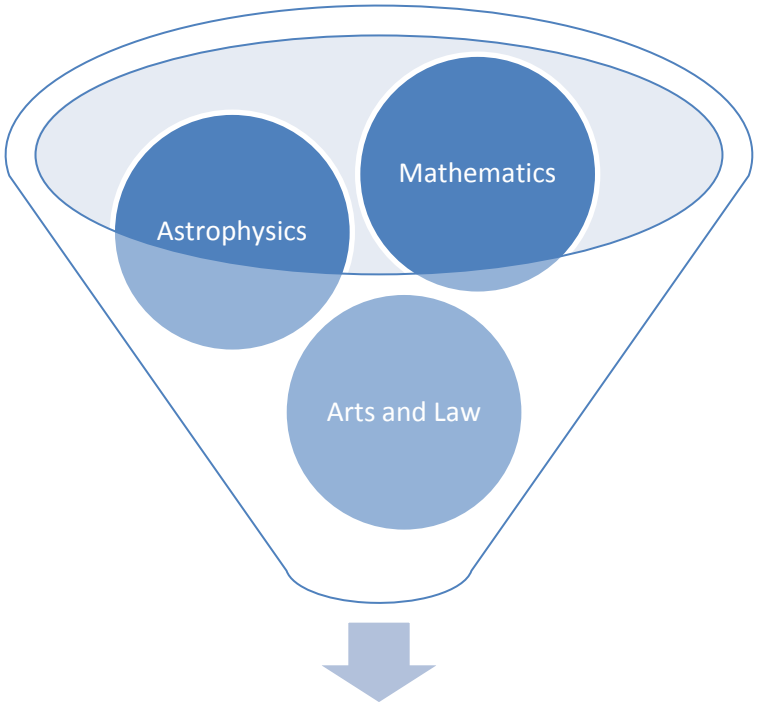
ASD – ANU Joint Facility

- Data Science
- Cyber Security
- Advanced Mathematics
- Minor domains

- Collaborative Research
- Graduates and academics
- Public STEM outreach

Many different paths…

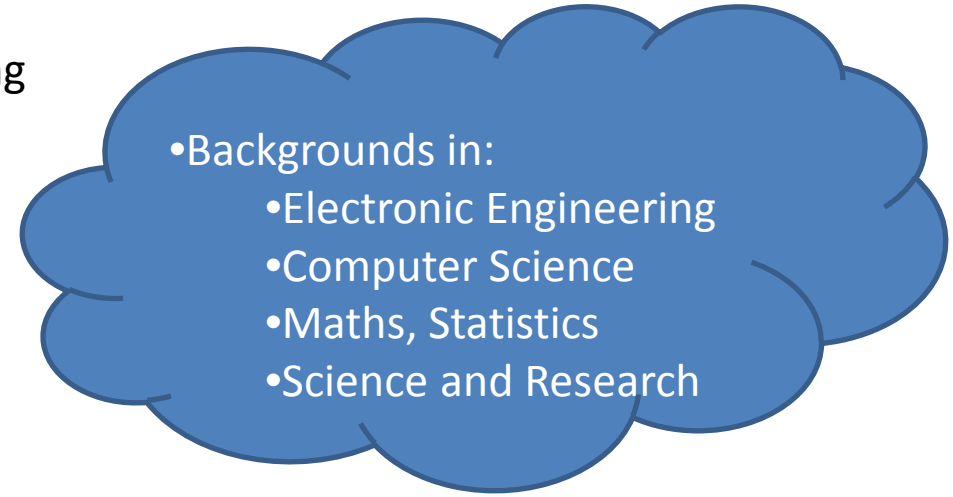
-some personal examples-



ASD Workforce

We want you…

- Software design, development and support
- Network and system engineering or administration
- Cyber security vulnerability research and incident response
- Malware analysis and penetration testing
- Computer and Information Security
- Advanced Mathematics
- Computational Linguistics



https://asd.gov.au/careers

Register interest online

Our outreach programs

- Work Experience Program
- Maths Appreciation Days
- Internships
- Cadetships
- Apprenticeships