Careers in IT Security and Cyber Forensics: Pathways, Challenges and Success

IT security has quickly risen to become a top level national security priority in Australia and across the globe, given we are increasingly storing and transferring data electronically. Unauthorised access to financial systems (e.g. internet banking), operating systems that control industrial/hospital/aircraft equipment and sensitive personal data stored with large corporations or government can have major detrimental financial and safety consequences. Increasing the security of data as well as reducing the impact of a network or database security breach are the key challenges that IT security specialists face.

Cyber forensics involves extracting information and data typically from networked computers and other electronic devices to prove a security breach and legally prosecute cybercrime. It involves investigation techniques and maintaining a documented chain of events to piece together what happened and identify who was responsible. Credit card fraud, identity theft, human trafficking, internet scams, malicious hacking, cyber-terrorism and drug syndicates are just a few of the growing areas of IT forensic investigation.

The Cyber Forensics and Information Security major develops skills in both of these disciplines, giving scope for a range of professional IT roles aimed at securing our digital future.

Engage in your career before you graduate

To be competitive in the workplace it is important to demonstrate your willingness to get involved and engage in your industry area early. When you have actively participated in your field you not only develop your professional network but are also be able to talk convincingly to future employers of choice about the skills and expertise you bring as a new graduate.

Ways you can show employers you are an active contributor include:

- Join and get involved in your student club or society (e.g. Murdoch Hackers Society or Murdoch Information Technology Society (MITS)) and a relevant professional association, assisting with promotions or industry events
- Enter student team competitions (e.g. Cyber Security Challenge Australia (CySCA), a combined Australian Government, University and Industry initiative)
- Engage in co-curricular opportunities at university (e.g. Peer Tutoring, Mentoring or Leadership Programmes)
- Seek part-time work in IT technical support/customer service. CareerConnect (www.careerconnect.murdoch.edu.au) is a good starting point for job search resources and job postings
- Volunteer – the Murdoch Volunteering Hub (situated next to the Guild Shop on Bush Court) is a useful resource for ideas on where to gain IT experience, email: volunteering@the-guild.com.au or phone: 08 9360 6307
Careers and Industries in IT Security and Cyber Forensics

The rapid uptake of IT and communication technologies has overtaken the availability of trained professionals resulting in a current IT security skills shortage both in Australia and globally. Graduates in this field are increasingly sought after by Government agencies and private firms alike. Given that the global economy is increasingly dependent on the internet and IT in general, the corporate finance sector is a major area for employment, together with Defence, Intelligence, Research and Police/Law Enforcement.

Countering and/or investigating unauthorised computer or network intrusions and access violations makes for an exciting day in the office. An adaptable, technical mind and creative problem solving ability, together with good attention to detail and patience are key qualities needed to secure information and protect users within the ever expanding cyber world.

Some typical job titles in the field include:
• Application Security Advisor
• Cyber Forensic Examiner
• Cyber Intel Analyst
• Cyber Security Consultant/Manager/ Technical Tester
• High tech Crime Specialist
• Incident Responder
• IT Security and Compliance Coordinator
• IT Security Governance/ Reporting Consultant
• ICT Security Specialist
• Manager – Technology Risk Advisory, Information Security
• Security Analyst
• Security Penetration Testing Development Engineer
• Security Engineer
• Tech Security Operations Officer

Adaptability of your IT Security and Cyber Forensics degree and alternative careers:

Your strong analytical, technical and creative problem solving skills offer you the chance to move into a number of alternative IT related fields, especially if you consider a second major or an additional minor. These can include; Business Analysis, Asset Management and IT Policy Development just to name a few.

IT graduates with a Cyber Forensics and Information Security major have also gone on to complete a relevant Honours year to further enhance their skill set and differentiate themselves. Lastly, IT graduates are often sought after for multi-discipline Graduate Program roles. Graduate Programs are structured professional development programs specifically designed for new graduates. Final year students apply for these positions from March for the following year. Murdoch graduates have previously secured Graduate Officer positions with Government departments as well as top-tier consultancy firms, retail and resource sectors, just to name a few.

An IT Security and Cyber Forensics major can open many different “virtual” doors but you have to pave your own journey through your experiences. You have the ability to continuously develop your career and differentiate yourself by actively engaging in university life, networking initiatives in industry and stepping up to opportunity.

Further Information:
Australian Information Security Association
www.aisa.org.au
Australian Cyber Security Centre
www.acsc.gov.au

Extend your network, get advice, join the Murdoch e-Mentoring Network on LinkedIn