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Some Dissertation 'Ideas' to get you started

We don't really want to have to 'give you' a project to work on for your dissertation at Masters level. It's far better if that comes from you because:

1. That level of 'taking responsibility for your own learning' is expected of Masters students, and
2. You'll feel more comfortable, and will make more progress, with something that originates from you – and interests you.

However, time is short on this online programme and we need to get you underway with this as soon as possible because you need to be discussing ideas with potential dissertation supervisors this week and early next. (Your draft literature review will be sent to your dissertation supervisor at the end of next week!)

So, in order to give you a 'start', here are some possible ideas or topics. Some are phrased as research hypotheses or questions; some aren't. Some will make immediate sense; some are a little more vague. None are dissertation projects in their own right, perhaps, but all can be adapted or extended or focused or redirected towards something that could be. That's up to you.

Your immediate task then is to take one or more of these ideas – or one entirely of your own, of course – and start discussing with potential supervisors immediately. They will be expecting you!

Here goes then, in no particular order …

- Biometric authentication - is the password dead and what is the privacy cost?
- Why do government IT projects run over budget and over time?
- Will a robotic workforce see a four day working week?
- How far off are truly autonomous vehicles in widespread use?
- How prepared is the UK for the 'big switch off'? (Copper wire telephone network, 2025)
- Is there any point to cyber security – or will the bad actors always win?
- Can the law keep pace with technology?
- Is cyber security in an organisation an invasion of privacy?

- Is the digital world creating a worse economic divide?
- Pair programming makes better programmers. Does it?
- Will education improve through virtual and augmented reality?
- What is the positive and negative impact of virtual reality on human perception?
- Protecting endangered species using AI?
- Does communicating on social media via computer and telephone affect our abilities to make genuine connections with others?
- Has open-source software changed the way the information technology industry develops new products and services?
- IoT security: Smart Home. Smartly defended?
- Digitalising healthcare: Can your wearable save your life?
- Quantum Internet: Internet without wires - the answer to the digital divide?
- Why aren't video games more female-friendly? What can developers do to close the usage gap?
- How Covid-19 and computer science has threatened the need for a physical workforce in business?
- In which areas or industries will we see the greatest impact of machine learning?
- Should the use of "cookies" be regulated more strictly?
- Can networks be optimised for energy efficiency without degrading performance?
- Are some cyber threats harder to mitigate against than others?
- To what extent does encryption degrade network performance?
- Can game theory be applied to network design?
- Is there an alternative to the Google Scholar 'H Index' that eliminates 'self-citation' inflation?
- Can data mining be made truly autonomous?
- Can electronic voting be made truly accessible?
- To what extent can a mobile device assist with personal safety or security?

- Can intelligent household devices assist with personal safety or security?
- Is there something better than QR codes?
- How realistic are results obtained from a network simulator?
- Does what we know about ‘The Halting Problem’ mean we can *never* build a truly predictive compiler?
- Is an indoor ‘satnav’ viable?
- Can ethical decisions be made algorithmically?
- How far are we from a ‘Shazam for People’ app?
- Can you tell from social media activity if someone’s drunk or on drugs?
- To what extent are robots perceived as ‘alive’?
- Is GPU programming the future of real-time operations?
- Will we ever get standardisation or interoperability of all devices?
- How can you test for realism in an immersive environment?
- Is the ‘uncanny valley’ really still a thing?
- Can technology assist with phobias?
- Can a robot conduct an orchestra?
- Does the world need ‘virtual graffiti’?
- How much ‘separation’ should there be between training and testing data sets for effective machine learning?
- Could a robot marshal an aircraft into land?
- Why do mathematicians and computer scientist view algorithms differently?
- After Chess and Go, what’s next for game algorithms?
- To what extent are IoT devices vulnerable to hacking?
- How effective is online age verification?

- Can games and videos be automatically age-rated?
- Does ‘queueing theory’ need to be brought up date for the 21st century?
- Will academics get replaced by technology?
- How can software analyse malware?