SELECT COMMITTEE ON ADOPTING ARTIFICIAL INTELLIGENCE

Alfred Russell Wallace - not an AI expert.

a. **Upside Benefits:** AI has the potential for enormous benefit to our economy and has been used extensively and safely in many industries in Australia for 10-20 years+. To be competitive internationally we need to encourage and foster AI skills, industry adaptations and we should be prioritizing AI & ML with future investment and education streams as industry globally is demanding these skills. Machine Learning, Deep Learning and Generative Adversarial Networks as subsets of AI are specific areas of focus that can rapidly improve productivity, profitability and efficiency when used with the appropriate compute, input scalars, training data, guardrails, legislation and reference sets to be safe and beneficial to economies, companies and nations..

b. **Downside Risks:** However there are many different types of AI, ML, DL and RL models that can and do create risks and can cause significant harm if used without adequate qualified and unbiased supervision or without input guardrails on health data, pain research, psychiatry, justice data, forensic health data, and other forms of deep medical treatment in industries or if solely focused on reducing costs, eliminating risk to commercial entities within current legal constraints that are lax and don't reference human rights or apply safe metrics and scalars to standard input feature sets. This is known as poisoned training data or adversarial attacks and is a very real problem. These harms may directly or indirectly cause pain and suffering during medical or clinical drug trials, financial loss for specific cohorts. DURC or Dual use research of concern is used by military, industry and pharmaceutical research bodies to experiment with novel drug combinations and automated triage treatments at scale, locally and overseas at partner nations with low to no oversight or QC. In

AWS and Azure model build guardrails can be optional and standard safe and legal reference sets that are recommended may be forgotten or removed. This can be enormously beneficial to speed up drug discovery and reduce costs but also lead to bias and model overfit for profit at speed over safety and quality control. The reality is that an AI ML program will soon potentially reduce the need for many jobs that will be automated including in medicine, law, transport, retail, mining, construction, finance as has already happened in journalism and content. Black box and grey box AI that can reference law enforcement, justice data, military or Uk dark datasets, adversarial inputs such as multiple channel frequency, bird boxing, high volumes of data in either bit rate, MB/s, GB/s or Db multiple HZ channels, longitudinal ion traps, spiking neural networks, and other attack vectors 2-3 times per night for 6-12+ months during complex vetting to align with US or Bangalore time zones as that's actually how AI gets outsourced and built. Human testing. The training data may be predictive or biased and prescriptive* inputs designed to produce a predetermined output for commercial or research purposes, EG IBM Watson Health.

c. **International Precedence**: 1. [US Executive Order on AI.](#) This is an excellent and comprehensive guide for Gov. Agencies with specific references to the number of floating points, compute, scalars and other technical details. [EU Artificial Intelligence (AI) Act,](#) focuses primarily on strengthening rules around data quality, transparency, human oversight and accountability. It also aims to address ethical questions and implementation challenges in various sectors ranging from healthcare and education to finance and energy.

d. **AI Services** in low to medium risk settings AI has huge potential to benefit citizens in terms of provision of services, reduced costs and faster time for decisions. Risk ratings and oversight are also needed but overall AI models with the correct inputs will make objective decisions on larger datasets faster than humans. It is not as simple as input all data and press play. Each use case is different and the interaction

of models on models and models that interrelate and feed off other models that dynamically update is important to factor in. Medical, Military, and High Frequency Trading algorithms all share some common themes in low to no legislative oversight.

e. **AI industry:** in Australia AI should be invested in publicly and privately at scale but also in the ethics, model build governance, drift, bias and oversight to ensure that we are optimizing for long term benefits and strategic goals and not just quarterly earnings and efficiency dividends. IP theft around AI ML is a concern and we need government protections to reduce overseas commercial exploitation.

f. **Democracy:** AI can generate deep fake images, video, audio and a range of false or reproduced technology that may deceive citizens of what is real and what is fake. Political discourse can suffer with model bias optimized around click through rates, scrolls, ads, likes and quality or trust scores suffering often reduced as a result and citizens not knowing who or what to trust. This is a serious concern in political campaigns or global finance but it can be tracked and audited.

g. **Environmental impacts** of AI technologies will be positive if governed with long term environmental goals and commercial interests aligned for greater national goals. This means specific guardrails on AI, ML, DL, RL models must be legislated to protect the environment, water tables, oceans, forests and factor in oxygen levels and quality, carbon levels and quantity, ocean temperatures, and the number of wild species we have left. Our environment cannot be replaced and rebuilding forests and ecosystems should become more commercially incentivised if we factor in the real costs and impacts to our food, air and water as well as dividends and CEO bonus schemes. Advanced AI models can assist with efficient resource allocation and benefit both sides. We need the right legislative frameworks and long term vision to guide them as the decisions and outputs are only as good as our input parameters.