

# Global Impact of Computing

Dear student. In many of the courses you have taken during your study you will recall that the instructor took pains to discuss the impact of computing in the world. It is little exaggeration to say that computing may be the defining technology of our time, and that we are (still) living in the information age. Likewise, in many of the courses you have taken during your study you will recall that the instructor emphasized the need to engage in continuing professional development for the rest of your professional career. As computer science and computer engineering are constantly evolving, computing professionals are faced with the need to keep abreast of new tools, techniques, trends, technologies, law and regulations, etc.

In this exercise we would like you practice and demonstrate what you have learned from the above. Consider a recent...

- Product: Self driving cars and trucks, consumer-priced drone aircraft, quantum computers, reusable rockets, tensor processing units.
- Practice: Commercial space flights, cloud computing, Ride-sharing (UBER, Lyft), fake news and alternative facts, bitcoin mining, deep learning, genome sequencing and editing.
- Event: Pluto flyby (New Horizons), 2016 Presidential elections and Brexit vote (both outcomes being grossly mispredicted by analysts and the media), widely publicized mass shootings, Meltdown and Spectre, computers dominating the game of go.

Now consider some of the professional organizations in computing/engineering, including: ACM - Association for Computing Machinery, IEEE - Institute of Electrical and Electronics Engineers, ISACA - Information Systems Audit and Control Association, NASCE - National Association of Communication Systems Engineers, Institute for Women and Technology, CPSR - Computer Professionals for Social Responsibility (this is only a small representative list). Take any product, practice or event (PPE) in computing/computer engineering that interests you (it does not have to be from the list above), and write a 1,000 word essay it. In particular consider the role that a professional organization has taken (or, in your view, should take) in reference to the product, practice or event. Your essay should have some element of advocacy. That is to say you should argue for or against some trend with your chosen PPE, or argue that some PPE is good or bad for everyone/people in developing communities/the taxpayer/animal rights/the disabled etc.

**Hand In:** An essay, with **six** or more cited sources, on the topic(s) discussed above. You are encouraged to run your idea by the instructor before you begin your research. Your topic may be closely tied to your project, or totally independent.