Seminar 1: Engineering as a Profession

Brief recap of what I learned

Ethics are malleable. Your ethics change throughout your life and seem to **start as more of an innate sense of what is right and wrong, and then change because of your experiences/environment**. The example of almost all children being averse to and uncomfortable around violence, juxtaposed with wars and terrorism existing in the world, is what helped me understand this. It is **also then clear that ethics vary from person to person because our experiences/environments do**.

Furthermore, one student's opinion of "I think killing is wrong in general" was shown to quickly change to "I think it's okay if it's in self-defense", when discussing the situation of a robber shooting a clerk at gas station vs police shooting the robber in self-defense. For this reason, **it is also clear that ethics change with context.**

Alternative course of action: What do you do when your ethical code is challenged?

One option is to **willingly go against your ethics**. An example of this in the seminar related to blackboard collaborate being required for our classes. One student proposed that if they disagreed with the T&C's of BBC, they might refuse to use it. The question then becomes: "Would you rather allow your ethics to be broken or get no seminar marks?". Ultimately you **must decide whether the action you deem as unethical is worth the benefits**. I believe benefits such as money and power are extremely effective at convincing people to do deeds that they believe to be unethical. It is also quite clear that **the more powerful an entity is, the more it can force you to go against your ethics** e.g. monopolies like Google, Amazon etc. can slowly introduce increasingly questionable policies into their terms of service because they know so many people use/rely on them, and so they can get away with it (legally).

Another option is to try **maintaining your ethics**. Extending on the previous example, it's possible that some students feel it is a breach of their privacy to be required to use video. To try and preserve their ethical standpoint AND get the marks, some students may give excuses as to why they cannot use video (this isn't intended as a specific attack at any particular students, just an observation I have made across many online classes). This could be used as evidence for the claim that **people prefer to reap the benefits of a situation AND remain ethical (in their eyes), rather than go against their ethics.** Note that I included "in their eyes" because it could be argued that it is unethical to breach trust (lie about broken equipment etc.) to preserve your own sense of what is right and wrong. Extending on the point of monopolies above, people may attempt to maintain their ethics by boycotting a company. This usually only happens/is effective when a company goes too far too quickly because then enough people become ethically outraged at once.

Extra thoughts and insights

Ethics are everywhere. The point about people being willing to act unethical for a large enough benefit really highlighted this. It is **perhaps the reason why conflicts of interest are not allowed in a lot of important scenarios.** For example, members of a jury cannot know the people involved in the case (defendants, witnesses, victims etc.) because that could influence their decision i.e. if a witness was your friend you may side with them. Further examples could include the collusion of rating agencies and banks during the stock market crash of 2008 for financial gain, and the destruction of an ancient aboriginal site by Rio Tinto, also for financial gain.

The common fix in most of these situations is to introduce a **neutral third party**. From an ethical standpoint, the most effective third party would be a large group of randomly selected people who have no conflict of interest. This would **allow for differing yet equally ethical viewpoints to be heard.** For example, some people would be for the mining blast that Rio Tinto performed as it brings jobs and money, yet others would be against it due to the history that is being destroyed. **The more commonly held of these opinions among society dictates what SHOULD happen**.

The argument about neutral third parties perhaps also reveals why we have a democracy instead of a dictatorship. The former is a single (and potentially biased) ethical viewpoint whilst the latter is a diversified one.

Finally, what is/isn't a profession? Well, firstly, to be a professional (in any area), I' d argue one must not only have the knowledge/expertise of that area, but they must also be ethical. What does ethical mean in this context? Following all previous arguments, I'd argue it means **to apply that knowledge/expertise in such a way that a valid third party would deem it ethical**. Therefore, I'd say a profession is any field that needs expertise AND requires adhering to a particular ethical code (that is validated as above).

Seminar 2: Killer Robot

<u>Perspective – Neutral Third-Party vs Involved Party</u>

Most of the discussion during this seminar revolved around pointing out who we thought was ethically responsible (by any amount) for the death of Bart Mathews. What I found most interesting was that **a lot of the characters were unanimously deemed to have acted unethically, but once it came time to holding people accountable, there were differing answers**. **Some students believed** that Michael Waterson was **single-handedly responsible** because of his position as CEO, others believed that Cindy Yardley and Ray Johnson were **solely responsible** (as their actions of faking tests and mismanaging were deemed most unethical), whilst **the majority blamed the company as a whole because almost all employees acted unethically**.

It was noted that the **first two decisions would be what is likely to occur in the real world**, mainly because when the public/shareholders blame a company, they often blame the face of said company (who do you think of when you think of Facebook?), where as a company itself would try shift the liability off themselves and onto the individuals (for obvious financial and reputation reasons – how many times have you heard "we do not condone the actions of [insert name] and they acted outside of our code of conduct/ethics"). **Our seminar group was a neutral third party** though, with **no benefits or repercussions for holding certain characters responsible, which is why I believe the most popular decision was to blame all characters who acted unethically.**

The **key fact is that who is ethically responsible, and who is accountable (legally or contractually), are two different questions with likely differing answers**. Once again, I'd personally advocate for a neutral third party to make conclusions, and then punishments proportional to the severity of one's unethical actions being dealt.

<u>Kantian vs Consequential</u>

Another interesting occurrence during the character discussions was the different ethical constructs used to decide whether someone was acting unethically or not. The most prominent example of this

was to do with Cindy and her faking of tests. We were asked to answer the question: is faking a test ever acceptable?

In the Kantian approach, **a test is basically a promise** in that a test promises to determine if something is correct or not**. If it is possible to fake a test** (to say something incorrect is correct), then **the whole concept of a test becomes nullified** because there **is no way of knowing whether a correct result if legitimate** or not. Hence, **the Kantian approach forbids faking a test** and by extension, **Cindy is unethical**.

In the **consequential approach, should we consider both the potential and actual outcomes?** Well, **no one knows the future**, so the **actual outcomes were of no real use** to Cindy. Hence, we **can only look at the potential outcomes**. Cindy perhaps believed there were no potential bad consequences because Ray assured her that the fake tests would not have any ramifications, but she should have considered the consequences if Ray were wrong or lying. This is where she went wrong, **you need to consider all the consequences you can, without making assumptions**, i.e. it's possible faking the tests will let some incorrect code pass (which did happen), where as not-faking the tests will most likely prevent this, which **is a better outcome, and hence the correct consequential answer**.

A point I did not get to make in the seminar was **that it's your intentions that matter more than the consequences**. To continue the above example, suppose Cindy chose not to fake the tests. Some students brought up the point that **you are not ethically obligated to write 100% correct bug-free code because that is, for all intents and purposes, impossible** to do. They stated that this is the reason testing exists and it is the responsibility of the testers to find the bugs… but tests are also written in code, and **if you're not ethically obligated to write correct code, then you're not ethically obligated to write correct tests**. At most, you are only ethically obligated to write code that you believe to be correct and have the knowledge to reason about whether it is correct or not. Basically, **making an honest mistake is okay, being negligent is not.** Hence **it would have been Cindy's choice to not fake the tests which would have made her ethical**, and **not whether the unfaked tests would have even prevented the death** or not.

As a final point, **it's obviously okay to sometimes fake tests (break promises),** it just **depends on the context and tradeoff**. In the robot case it clearly wasn't (tradeoff=death), but in the case of a trivial phone game for example, it's probably okay to fake a test if that allows you to ship the new version of the game, especially if that bug requires users to play the game to uncover how to replicate the bug, or if the bug doesn't really effect the game e.g. the final score is sometimes formatted oddly (tradeoff=players get new version, sometimes see a poorly formatted score).

Seminar 3: Ethical Reasoning

<u>Key Insights</u>

Prior to this seminar, I was aware how the deontological (Kant) and teleological (Mills) perspectives were different from a theoretical point of view. To put it in simple terms, I knew Kant was duty based, required acts to be willed so to even be considered ethical, whereas Mills was consequences based and the intentions didn't necessarily matter. **What I wasn't yet aware of was how they differ practically.** In all of the situations we explored in our breakout groups, **applying the deontological perspective almost always resulted in a verdict of unethical**. On the other hand, in those **same exact situations, you can apply the teleological perspective to view it as somewhat**

ethical, even if there are trade-offs. It's almost **as if they are opposites**, with Kantian based ethics being very restrictive, and Mills based ethics being very free.

This was **also apparent in the readings**. If the authors of the drone articles were to take **a Kantian based perspective**, they all would have been **forced into being anti-drones and anti-war**. This is **because from a "matter of fact" or "the principle of the thing" viewpoint, killing is deemed wrong** and unethical. Perhaps **this also reveals that the Mills ethical framework is much easier to exploit** because you can play around with different consequences which is much more subjective. The author of the second paper for sure seemed to use lots of consequences based anecdotal evidence for drones being used in war, such as that they are more precise and so less civilians will die. This argument assumes that the killing of soldiers is okay, and I think not even acknowledging that ethical aspect is negligent and severely weakens the argument.

Finally, I believe **Mill's framework is often much more useful when given a specific context**, and **Kant is more useful for general situations with less details** where you are forced to make assumptions. Both, and other ethical frameworks, should be applied when decision making however.

Seminar 4: Student Seminars

<u>Student seminar 1: Facial recognition</u>

I thought this talk was **very good at covering how and where facial recognition is used in today's society** (**point of sales, image tagging, civilian surveillance**), but I feel like it **lacked a little when it came to the actual ethical ramifications or benefits** of using it. It was **clear that the talk was anti-facial recognition for the most part**, and they **did highlight issues like facial recognition software being potentially race biased**, but some **conclusions seemed to be left out or too general** (yes, facial recognition software can be creepy or invasive, but do the ends justify this? Yes? No? Why?).

The **most interesting part of the talk for me was the Facebook photo tag showcases**. This was a good example because almost **everyone is familiar with it** and so it brings the topic close to home. I also liked this example because they were able to use it to highlight key issues **like facial recognition being imperfect** (**crowd photo didn't work** where as small group photo did), and how the companies seem to protect against that ("this image MAY contain x, y, z"). It just would have been nicer for that point to be explored more deeply from an ethical viewpoint.

I also learnt from watching this seminar that it is **important to give the audience time to respond when you ask a question**, and the **question itself has to be clear** (there were a few times where I wasn't sure of what they were actually asking, or understood them but didn't have enough time to think of an answer). For example, there was a question that implied a use case for facial recognition that doesn't identify faces, but the answer they gave did – very confusing.

<u>Student seminar 2: Dataveillance</u>

In this seminar **I was part of the group presenting for dataveillance**. I believe our seminar went very well, especially considering the short amount of time we had to complete it. Our decision to each take on the role of a different ethical stakeholder, and also having an interactive activity, seemed to pay off well. I think **a key takeaway my group learnt was that we can't be so optimistic about time,** and should take measures to stay within time (such as having a timer on our phone running that we can keep checking).

Seminar 5: Student Seminars

Student seminar 1: Ethics of Social Media

Unfortunately, **this was one of the duller seminars for me**, **despite the topic being quite fascinating**. I usually take notes of key points during the seminars, but I really struggled with this one.

Perhaps because **I had recently watched The Social Dilemma**, **points didn't seem new or deep** enough to be bothered writing down, but it could be argued they should have gone deeper on specific points, rather than doing a generic and general overview of the area. I don't think generality was a good idea, especially on this topic, **because we are all already pretty aware of most of these issues** (who at our age doesn't know about algorithm bias, echo chambers, cyber-bullying etc.?), instead they should have gone really deep into a couple of them, focusing on what makes that specific issue an ethical problem, rather than just stating what the problem is. I would have liked to have seen more ethical discussion about **the idea and nature of social media itself (ideological level)** rather than problems at the company level (implementation).

Even the **main example used, the Cambridge Analytica (CA) data scandal, made worldwide news and was pretty mainstream knowledge** when it occurred. As a result, it was probably already pretty well known by the audience. **Perhaps a better idea** would have been to choose **a more niche example**, especially one **that resonates with the idea of social media use (for example, addiction**), **rather than dataveillance (CA).**

Student seminar 2: Software Disasters

I really liked this talk because **I enjoyed the earlier seminar on the Killer Robot**, and this seemed like a **natural sequel**. This group **used case studies excellently to demonstrate their points**.

The Therac-25 was **the first case study** they covered. This was a **machine that accidentally issued lethal dosages of radiation to patients undergoing radiotherapy**. It was eventually discovered that there were **software bugs to blame for this**. It **was then noted however that this machine is actually the descendant of a previous machine**, and whilst **the bugs were shown to be present in the previous machine as well**, they **never killed anyone**. This was because the **previous machine had hardware safeties**, and thus it's **not entirely the programmers' fault**. This led into one of their **key points**: you **cannot be expected to write perfect code**, nor should you be punished for writing imperfect code. I think this is an **important pattern forming among software-based disasters**, in that there **has to be many points of failure and negligence for the system to fail in production** i.e. faulty code, no/bad testing, no hardware safeties incorporated etc.

The **second case** was the **uber self-driving car** that **hit and killed a pedestrian crossing the road** at night. It was noted that **the car "saw" the person with enough time to stop**, but because they **weren't correctly classified as a person**, the **car didn't stop**. Even though we have already established that the programmers aren't solely at fault, it is **questionable that the cars weren't programmed to stop if they were going to collide with anything in general**, especially something as big as a bike. On the other hand, **the car was in the testing phase**, so this is a **point in favour of the programmers – it's not expected to be of production quality yet**, and this is why they had a safety driver behind the wheel, or so they thought. This brought them onto the next point, which was that **the "safety" driver was the real person to blame**. The driver **shouldn't have been watching her phone**, which she did for a significant portion of the drive. If she had been watching, then the person would not have been killed, so **the person was effectively killed because of their negligence**. The

algorithm was literally put in the driver seat and given complete authority, it's supposed to be the other way where the human if the final decider on what to do and has override powers.

Finally, I **also liked the breakout room activity** they included. The situation was detailed clearly, and it was **well thought through, specifically with regards to the figures and wording they used**. I have a feeling they **deliberately chose the accuracy figure of 1 in 1000** because whilst that is quite common, it's **perhaps better than humans**. They **also chose to say it was just an aid for the Doctor** (the machine is not the final decider), who could override the wrong decision outputted by the machine**. This spurred on great discussion in my group about the ethics of harm that is the result of a machine vs harm that is the result of another human**, and eventually **agreed that lower harm is better**, **regardless of whether that means people get harmed due to machine errors**. We even talked about how this was similar to the previously mentioned self-driving car incident earlier in the lecture (covered above) and self-driving cars in general, in that they will still lead to deaths, but if they lead to less then they are worth it.

Seminar 6: Student Seminars

Student seminar 1: Intellectual Property

This talk covered many of the aspects of intellectual property, namely copyright, patenting, trademarks, plagiarism, and right of ownership. I think this was the **most entertaining** seminar so far.

The **copyright section** mainly **revolved around the example of a song** (Gotye – Somebody that I used to know) **which sampled another** (Luiz Bonfa – Seville). The speaker reminded the audience that sampled **material cannot be claimed under copyright if it is transformative**. A lot of **hands were raised in agreeance of the song being similar**, but we only heard a small portion of it and the **speaker revealed the song as a whole was a completely different style and tone**. The idea that copyright runs out was also discussed via example of the happy birthday song – who would've guessed someone actually owned that? The **4 chords song, by axis of awesome, really shows just how similar a lot of songs are**: https://www.youtube.com/watch?v=5pidokakU4I

The **patent section was a little unclear in the beginning** (Microsoft part), but the **eventual discussion of how patents can be leveraged to hike medicine prices was really good.** We've seen a lot of points in favor of patents, so this balance was needed – specifically the main question posed – is protecting IP laws worth the cost of human lives? I'd argue it's not.

The trademark section was really relatable because it **used products we all know** (like vegemite and tim-tams**), as well as ones we don't**, **to show** that when you're offered something familiar and a "knock-off", you **mostly choose the one you know**. This is **basically reputation** and is a good reason why the things that identify a brand (something you **recognize to be associated with it) must be protected** (so that **knock-offs cannot abuse that reputation unfairly, or potentially damage it** if people think it is the real deal).

The section on **plagiarism** was interesting mainly because of the point about **self-plagiarism**. I wasn't aware this is a thing, and to be honest, I don't think it should be. I understand it exists to prevent student being lazy and making sure they learn something, but it should be labelled appropriately and in its own punishment category i.e. assessment recycling rule**. To call it plagiarism is not accurate**.

Finally, the **section on right of ownership focused on employee-employer relationships** with **regards to ownership of work.** A small clip from the show silicon valley was played and a related

question was asked: if an **employee uses company time or resources to work on their individual product, does the company own it**? **This reminded me of Ori Allen**, who was **a student at UNSW** who **developed an algorithm that was then used in Google's search engine** (https://www.smh.com.au/technology/google-search-gets-aussie-algorithm-update-20090325-gdtftt.html). UNSW actually owned it though because he did the work at UNSW using their resources.

Student seminar 2: Privacy of Genomic Data

This was my seminar and so I'll only write a brief recap of what I learned (not content wise though).

We learned, yet again, that you should **always overestimate how long something is going to take.** We again **ran out of time before we could do our discussion**, but **even worse this time**, our **second to last speaker was forced to be rushed, and our last speaker had to just plain cut content**. This was unfair to them.

I **learned that whilst scripts are great for keeping to your allocated time**, **they aren't dynamic** and so **if time does need to be cut, it's not as easy to do so compared to if you're making it up as you go** from dot-points. I **wasn't able to shorten my section to allow Sam and Rohan more time** because it was typed up to be exactly 5 minutes. Furthermore, had I been the last speaker, I wouldn't have known what to say at all (because I wouldn't have been able to use my script because it wouldn't have fit in) and so another thing I've learnt is that I should probably make a dot point version of scripts if I am to use them.