5 Professionalism

This discussion is with respect to the paper titled "Contextualizing Professionalism in Capstone Projects Using the IDEALS Professional Responsibility Assessment", *International Journal of Engineering Education* Vol. 28, No. 2, pp. 416–424, 2012

5.1 Areas of Responsibility

Area of Responsibility	Definition	NSPE Canon	IEEE interpretation	Our Interpretation
Work Competence	Perform work of high quality, integrity, timeliness, and professional competence.	Perform services only in areas of their competence; Avoid deceptive acts.	Maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations.	Only perform work that you are competent and able to do at a high standard.
Financial Responsibility	Deliver products and services of realizable value and at reasonable costs.	Act for each employer or client as faithful agents or trustees.	To reject bribery in all its forms.	Maintain financials which are realistic and reflective of the work being done.
Communication Honesty	Reports work truthfully, without deception, and are understandable to stakeholders.	Issue public statements only in an objective and truthful manner; Avoid deceptive acts.	To be honest and realistic in stating claims or estimates based on available data. Avoid real or perceived conflicts of interests.	Communicate with parties involved about everything which may pertain to them. Don't attempt to deceive or trick those involved.
Health, Safety, Well-Being	Minimize risks to safety, health, and well-being of stakeholders.	Hold paramount the safety, health, and welfare of the public.	To avoid injuring others, property, reputation, or employment by false or malicious action.	Ensure that the work being done will keep everybody and the environment as safe as possible.
Property Ownership	Respect property, ideas, and information of clients and others.	Act for each employer or client as faithful agents or trustees.	To credit properly the contributions of others.	Give credit where credit is due. Don't take credit for work not done by you.
Sustainability	Protect the environment and natural resources locally and globally.		To improve the understanding of technology; its appropriate application, and potential consequences.	Ensure that the environment is protected and that due diligence is done to ensure it's protection. Avoid wasteful/harmful designs.
Social Responsibility	Produce products and services that	Conduct themselves honorably,	To treat fairly all persons and to not	Treat everybody as equals and make

	benefit society and communities.	responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.	engage in acts of discrimination based on race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression.	designs that don't aid in discriminatory acts.

Differences between IEEE and NSPE:

- Work Competence: Pretty much the same, perform work you are competent to perform and disclose limitations in your abilities to perform a task.

- Financial Responsibility: IEEE referred to more integrity in not taking bribes whereas NSPE states you should be faithful and in your work for your clients.

- Communication Honesty: ASPC moreso states that you should be objective whereas IEEE says honesty and realism is more important with your communication.

- Health, Safety, Well-Being: ASPC states keeping everybody as safe as possible where IEEE says the same but adds in not performing false or malicious action. IEEE seems to allude to taking as many precautions as possible which is similar to what ASPC states.

- Property Ownership: ASPC seems to think of this in terms of property made for a client or trustee whereas IEEE moreso talks on Intellectual property and giving credit to contributions made by those other than yourself.

- Sustainability: ASPC doesn't mention sustainability at all so they differ completely in that IEEE takes into account the understanding of technology and its consequences that it could have on the world.

- Social Responsibility: Both talk about treating everyone fairly and equally no matter their circumstances or who they are as people.

5.2 Project Specific Professional Responsibility Areas

Area of Responsibility	Does it apply to our project's professional	How is our team performing?	Justification

	context? Why?		
Work Competence	Yes, we have to constantly learn about new topics in order to complete this (ie Neural Networks, Python Coding, etc)	Medium	Some members of the team have tried to learn more Python coding and we have begun to review the specifics of Neural Networks.
Financial Responsibility	No, we are coming up with a proof of concept not an actual product.	N/A	Since we don't have any financial responsibility to our project our team hasn't done anything towards it.
Communication Honesty	Yes, because in order for our project to work properly we need to be truthful about what parts of the project work and don't work so if we run into issues we can quickly determine where the problem is and fix it.	High	We have viewed where our model does not fit our project and have been able to modify it to make it work a little better. We have also discussed different issues with the collection of data to better our group of data to perform better later on in the project.
Health, Safety, Well-Being	Yes, because it would shut off the line and make it safer for linemen to find faults and fix them.	Medium	Less time searching for the fault location and type can negate accidents occuring in the time searching for these solutions.
Property Ownership	Yes, since power lines go through towns and cities and by crop fields our project will be able to respect the property of the clients by turning off the power lines faster when a fault occurs which should either reduce or completely eliminate damage to their property.	Medium	The faster we can shut off these power lines, results in a greater chance that a fire(or other types of damage) will not occur
Sustainability	Yes, because our	Medium	The ability to negate

	project will allow power companies to turn off power lines faster once a fault is detected which will make it so the faults don't have as much time to catch fire to trees or other things that are in the area and cause more damage. It also will help reduce the amount of energy loss from the fault which will lower the amount of resources wasted from a fault.		the possibility of damage that the faults may cause. The time that it detects a fault, to the time the breaker opens is now that much less time that an issue can occur.
Social Responsibility	Yes, because the goal of our project is to make fault detection easier for power companies so they can shut off the line faster and be able to fix the issue faster so that the community maintains reliable energy.	Medium	The faster we can recognize and respond to the fault will result in less power loss. Less power loss results in saved money and time with the company and its customers.

5.3 Most Applicable Professional Responsibility Area

We believe that communication honesty is one of the most important for our project and we seem to do that very well so far. Having communication honesty means being able to report work done in an efficient and reliable manner. In this sense, we have been communicating very frequently and been able to describe what is going on in our own sections very effectively. We have also been very open about our confidence in this project and the different topics that we are meant to accomplish. Due to this, we have been able to work on the different parts of this project and efficiently communicate within the team of our findings and new ideas.