NSPE Position Statement No. 03-1774—Artificial Intelligence

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NSPE Contact: Committee on Policy and Advocacy
Professional Policy Supported: 03-Emerging Technologies

STATEMENT:

The National Society of Professional Engineers (NSPE) recognizes the transformative impact of Artificial Intelligence (AI) on society and is committed to promoting responsible development and deployment of trustworthy AI. As a leading organization of engineers dedicated to upholding the highest ethical standards and safeguarding public welfare, NSPE maintains that individuals who design, develop, or oversee AI systems that have a direct impact on public safety should be held to the same standards as professional engineering licensure. NSPE believes that in upholding ethical standards, prioritizing safety, and promoting transparency and accountability, Professional Engineers play a pivotal role in ensuring AI benefits society while minimizing its risks.

Discussion:

1. Ethical Responsibility:

NSPE emphasizes the ethical responsibility of engineers and AI professionals in the design, development, and deployment of trustworthy AI systems. Engineers and AI professionals must prioritize ethical considerations to ensure that AI technologies are designed and used in ways that do not harm individuals, society, or the environment. Ethical guidelines should be at the forefront of AI development to address issues such as bias, transparency, and accountability.

2. Safety and Reliability:

Safety and reliability are paramount in AI systems. NSPE advocates for rigorous verification & validation, testing, and continuous monitoring of AI systems to minimize risks and ensure their dependable operation. Software upgrades and integration should be held to the same standard of care as the initial launch. Engineers should apply their expertise to establish robust safety standards for AI applications, particularly in critical domains such as healthcare, transportation, and infrastructure.

3. Professional Licensure:

NSPE maintains that individuals who design, develop, or oversee AI systems that have a direct impact on public safety should be held to the same professional licensure standards as traditional engineers. Licensing of engineers ensures that

those engineers working on AI systems possess the necessary qualifications, experience, commitment, and accountability to uphold the public's well-being. Other technical professionals in the field should also be held to the same professional and ethical standards with respect to public safety and accountability to ensure the entire technical team holds paramount the public's safety, health, and welfare.

4. Transparency and Accountability:

AI systems should be designed to be transparent and accountable as part of being a trustworthy system. NSPE supports initiatives that promote transparency in AI algorithms and data, enabling users to understand how decisions are made. Additionally, accountability mechanisms must be in place to address unintended consequences or errors arising from AI applications.

5. Privacy Protection:

NSPE emphasizes the importance of safeguarding individual privacy in the era of AI. Engineers and AI professionals should respect privacy laws and best practices in the collection, storage, and use of personal data. NSPE encourages collaboration with privacy experts to ensure compliance with evolving privacy standards.

6. Continuous Education and Training:

NSPE underscores the need for continuous education and training for engineers and AI professionals to stay current with advancements in AI technology and ethics. We support initiatives that provide opportunities for professionals to enhance their AI knowledge and skills, fostering a culture of lifelong learning.

7. Collaboration and Interdisciplinary Approach:

NSPE advocates for collaboration among engineers, data scientists, ethicists, policymakers, and other stakeholders to address the complex challenges posed by AI. An interdisciplinary approach is essential to creating trustworthy AI systems that align with societal values and priorities.