Online Ethics Center
FOR ENGINEERING AND SCIENCE

Ethics of Recognizing Contributions of Undergraduate Engineering Students

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Description

This hypothetical scenario is about a student who has to do an internship as part of an undergraduate program in mechatronics. The student contributed to a novel technology, but upon the project's success, the team decided to publish their findings without giving Amir authorship credit and offered to mention student contributions in the paper's acknowledgements section.

Body

Amir is doing a four-year bachelor's program in Mechatronics, which also requires completion of an internship for 100 working days. He did his internship in an R&D center that develops wireless autonomous sensor technologies where he focused on a Tire Pressure Monitoring System (TPMS). TPMS measures the air pressure in a vehicle's tires and transmits warnings to the driver in the event of an under- or over-inflated tire, thereby improving vehicle safety and increasing fuel efficiency. What made Amir's project unique was that this TPMS was designed to include a rubber temperature system (to signal overheating) and generated its own power from the tires' rotation (thus working without a battery).

During his internship, Amir participated in prototype development, energy harvesting characterization, electronics design, and subsequently helped the team in the implementation phase. Towards the end of Amir's internship, the team successfully received transmission from the prototype and decided to publish the results of this work. When Amir asked if he could be involved in the publication, he was told that since his internship was finished, he cannot be included in the paper. In response, Amir insisted that he was eager to be involved and even offered his help (e.g., working on writing different sections of the paper and reviewing the final version before submission, as well as being involved in revising the paper based on feedback from reviewers). However, he was told that since his contract ends soon, he is no longer a team member and so cannot be a co-author. Instead, his contributions will be recognized in the acknowledgements section.

Discussion Questions

1. Is being employed or being part of a team at the time of the publication a criterion for authorship?

2. What is the difference between being an author and being recognized in the acknowledgements section?

3. Did Amir's contributions to the project warrant authorship?

4. In case the group decides to register a patent for the new TPMS, does Amir's contribution qualify him for inventorship? What if the idea of generating power from the tires' rotation was Amir's?

5. In industrial environments, various publication types other than journal articles and patents could be used for research communication including blog posts, white papers, application notes, technical reports, and case studies. Could Amir share information about the TPMS in a blog or white paper without notifying the R&D center?

6. What would you do if you were in Amir's situation?

7. How could Amir have prevented this situation?

Notes

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Resource Type

Case Study / Scenario

Topics

Collaboration
Confidentiality
Intellectual Property and Patents
Mentors and Trainees
Publication Ethics
Authorship

Discipline(s)

Engineering
Electrical Engineering
Mechanical Engineering

Publisher

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