

## Precision People Counting: Utilizing Dual IR Sensors for Accurate Entry and Exit Monitoring



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In the original system for counting the number of people passing through a doorway, a single IR sensor was used. However, this setup faced challenges when people entered and exited simultaneously. The system could not accurately distinguish between entry and exit movements, resulting in counting errors. This research aims to improve the accuracy of people counting by employing two IR sensors instead of one. With this dual-sensor setup, the system can accurately detect the direction of movement, whether a person enters through the exit or exits through the entry. This allows for 100% accurate people counting, regardless of the direction individuals are moving, thereby solving the limitations of the previous single-sensor approach. The proposed solution ensures reliable performance in various scenarios where foot traffic flows in opposing directions.

### Biography:

Asst. Prof. Dr. Wirote Jongchanachawat received his B.Sc. (Solid State Electronics) from King Mongkut's Institute of Technology Ladkrabang in 1994, B.Eng. from South-East Asia University from 2014, MBA. from National Institute of Development Administration in 1999, M.Eng. from King Mongkut's Institute of Technology Ladkrabang in 2000 and D.Eng. from King Mongkut's Institute of Technology Ladkrabang from 2009. He had more than 20 years in information system and management from many company. He is an assistant professor in Faculty of Engineering and Industrial Technology, Phetchaburi Rajabhat University, Thailand since 2022. His main research interests are analog circuit design, management information system (MIS), Operation Management, technology management, Big Data, IoT and automation.

Mr. Supachai Phumpuang graduated high school from Khongkaram School in 2022. Currently he is studying an Electrical Engineering at Phetchaburi Rajabhat University, He is interested in Electrical Automation such as Electrical Vehicle (EV), etc.

Mr. Narongsak Wornplop graduated from Ban Lat Wittaya School in 2022. He is currently studying an Electrical Engineering at Phetchaburi Rajabhat University. His main research interests are electrical circuit, programming to control automatic machine.

Ms. Roongpraew Wiwatkamolwat is currently studying in junior high school year (Grade11) at Ekamai International School, Bangkok. The main research areas of interest are computer engineering and AI. Roongpraew is particularly interested in developing innovative algorithms and software solutions that can enhance human-computer interactions. This includes exploring machine learning techniques, neural networks, and data analysis to create intelligent systems that can solve real-world problems efficiently. Additionally, Roongpraew is fascinated by the potential of AI to revolutionize various industries, from healthcare to finance, and aims to contribute to advancements in these fields.