

## SEMINAR ANNOUNCEMENT

### DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

Website: <https://www.eng.nus.edu.sg/ece/>

**Area: Integrated Circuits & Embedded Systems**

**Host: Dr. Himadri Singh Raghav**

|         |   |                                                                                                                                                                                                                                             |
|---------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOPIC   | : | Low Power Design Of Event Detection Image Sensors For Smart Surveillance Systems                                                                                                                                                            |
| SPEAKER | : | Japesh Vohra<br>Graduate Student, ECE Dept, NUS                                                                                                                                                                                             |
| DATE    | : | Tuesday, 6 July 2021                                                                                                                                                                                                                        |
| TIME    | : | 3.30PM to 4.00PM                                                                                                                                                                                                                            |
| WEBINAR | : | Join Zoom Meeting<br><a href="https://nus-sg.zoom.us/j/86831105431?pwd=OFd2U1R3SDd2aUhNVVJ4Sig0ckJLQT09">https://nus-sg.zoom.us/j/86831105431?pwd=OFd2U1R3SDd2aUhNVVJ4Sig0ckJLQT09</a><br><br>Meeting ID: 868 3110 5431<br>Passcode: 350287 |

### ABSTRACT

With the increase in surveillance systems working around the clock, the number of surveillance cameras as well as the video data generated has seen a tremendous growth in the past few years. To monitor and analyze the captured video data, smarter systems are being employed to process data at the edge and trigger action in the cloud when necessary.

The energy required by these smart image sensors has recently increased due to the requirement of compute-intensive artificial intelligence accelerators. To embed scene sensemaking at the edge within allowed power budgets, several approaches exploiting the spatial and temporal redundancy in video data have been proposed.

In this seminar, a ground-up rethinking of energy-efficient surveillance systems capturing video data based on the occurrence of events of interest is discussed along with recent advancements in the design of low-power event detection smart imager sensors.

Japesh is pursuing his PhD degree with the Green IC group at NUS. He received his B.Tech. in Electrical Engineering from Indian Institute of Technology Ropar in the 2018 and worked at Samsung Research and Development Institute for one year as a Software Engineer before joining NUS. His research focuses on designing energy-efficient circuits for real-time systems. He is currently working on designing low-power smart image sensors with in-pixel saliency detection.

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