



**Name:** Swami Punyeshwarananda

**Position:** HoD, Department of Computer Science

**Academic record including highest degree:**

- PhD from the School of ITEE  
The University of Queensland 2012
- Bachelors in Electronics and Communication Engineering  
The National Institute of Engineering, Mysore, India 2003

**Academic experiences:**

Ramakrishna Mission Vivekananda Educational  
and Research Institute (RKMVERI)  
Current Designation: Assistant Professor, HoD  
Teaching & Research

2014 - 2017  
2023 - Present

Queensland University of Technology  
Brisbane, Australia  
Designation: Research Fellow

Apr 2012 – Dec 2013

- Modelling the outbound passenger process model at airports using Bayesian Networks. Developed an initial prototype in C++
- Peer reviewed conference papers and journal articles related to my field
- Managed some aspects of the ARC Linkage project called the Airports of the Future Project

## **Administrative experiences:**

Mar 2020 – Mar 2023

Ramakrishna Mission Residential College

Narendrapur

Designations held: Assistant Professor, Vice Principal

- Assisting the Principal with the general administration of the college
- In charge of the IT Department of the college
- Also taught the following courses: Digital Image Processing, Values and ethics

## **Achievements:**

Invited by Nokia, Japan in 2007 to work as a consultant in programming on multi-core platforms developed by Texas Instruments.

## **Publications:**

Vikas R, Conrad Sanderson, and Brian C Lovell. An efficient and robust sequential algorithm for background estimation in video surveillance. In 2009 16th IEEE International Conference on Image Processing (ICIP), pages 1109–1112. IEEE, 2009.

Vikas R, Anna Charisse Farr, Paul Wu, Kerrie Mengersen, and Prasad KDV Yarlagadda. An intuitive dashboard for bayesian network inference. In Journal of Physics: Conference Series, volume 490, page 012023. IOP Publishing, 2014.

Vikas R, Conrad Sanderson, and Brian C Lovell. Robust foreground object segmentation via adaptive region-based background modelling. In 2010 20th International Conference on Pattern Recognition, pages 3939–3942. IEEE, 2010.

Vikas R, Conrad Sanderson, and Brian C Lovell. Improved anomaly detection in crowded scenes via cell-based analysis of foreground speed, size and texture. In CVPR 2011 workshops, pages 55–61. IEEE, 2011.

Vikas R, Conrad Sanderson, and Brian C Lovell. A low complexity algorithm for static background estimation from cluttered image sequences in surveillance contexts. EURASIP Journal on Image and Video Processing, 2011:1–14, 2011.

Vikas R, Conrad Sanderson, and Brian C Lovell. Improved foreground detection via block-based classifier cascade with probabilistic decision integration. *IEEE Transactions on Circuits and Systems for Video Technology*, 23(1):83–93, 2012.

Lin Cheng, Vikas R, Clinton Fookes, and Prasad KDV Yarlagadda. Agent-based modelling simulation case study: assessment of airport check-in and evacuation process by considering group travel behaviour of air passengers. In *Applied Mechanics and Materials*, volume 568, pages 1859–1864. Trans Tech Publications Ltd, 2014.

Vikas R, Conrad Sanderson, Andres Sanin, and Brian C Lovell. Adaptive patch-based background modelling for improved foreground object segmentation and tracking. In *2010 7th IEEE International Conference on Advanced Video and Signal Based Surveillance*, pages 172–179. IEEE, 2010.

Vikas R, Conrad Sanderson, Andres Sanin, and Brian C Lovell. MRF-based background initialisation for improved foreground detection in cluttered surveillance videos. In *Computer Vision–ACCV 2010: 10th Asian Conference on Computer Vision*, Queenstown, 4 New Zealand, November 8-12, 2010.

Jingxin Xu, Simon Denman, Vikas R, Clinton Fookes, and Sridha Sridharan. Real-time video event detection in crowded scenes using mpeg derived features: A multiple instance learning approach. *Pattern Recognition Letters*, 44:113–125, 2014.

Lin Cheng, Clinton Fookes, Vikas R, and Prasad KDV Yarlagadda. Analysis of passenger group behaviour and its impact on passenger flow using an agent-based model. In *2014 4th International Conference On Simulation And Modeling Methodologies, Technologies And Applications (SIMULTECH)*, pages 733–738. IEEE, 2014.

Lin Cheng, Vikas R, Clinton Fookes, and Prasad KDV Yarlagadda. Impact of passenger group dynamics on an airport evacuation process using an agent-based model. In *2014 international conference on computational science and computational intelligence*, volume 2, pages 161–167. IEEE, 2014.

Ankith Konda, Vikas R, and Prasad Yarlagadda. An intuitive multi-touch surface and gesture based interaction for video surveillance systems. *International Journal of Future Computer and Communication*, 3(3):197–201, 2014