Alwyn Mathew

Computer Vision Researcher

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Education

Ph.D. in Computer Vision (3D Computer Vision)
Indian Institute of Technology (IIT) Patna

Aug 2021   Patna, India

Masters in Technology (Image Processing)
College of Engineering Karunagappally

May 2016   Kerala, India

Bachelors in Technology (Information Technology)
Tamilnadu College of Engineering

April 2012   Coimbatore, India

Research Experience

3D Computer Vision for Autonomous Vehicles
Indian Institute of Technology (IIT) Patna

2016 – 2021   Patna, India

- **Dense Depth Estimation** from single calibrated/uncalibrated camera.
- **Vulnerabilities** of monocular depth estimators against adversaries.
- Advisor: Dr. Jimson Mathew
- Supported by Ministry of Human Resource Development, Government of India.

Demand Side Management in Smart Grids
Indian Institute of Technology (IIT) Patna

2018 – 2021   Patna, India

- **RL based Intelligent Agent** for load shifting in residential grids.
- Design of optimal **DSM RL environment** for the agent.
- Advisor: Dr. Jimson Mathew
- Supported by Ministry of Human Resource Development, Government of India.

Recent Research Publications

- **Mathew, A.**, Jolly, MJ. and Mathew, J., Improved Residential Energy Management System Using Priority Double Deep Q-learning, Sustainable Cities and Society, (2021).
- **Mathew, A.**, Patra, A., and Mathew, J., Monocular Depth Estimators Vulnerabilities and Attacks, IEEE Intelligent Systems, (2020).
- **Mathew, A.**, Roy, A., and Mathew, J., Intelligent Residential Energy Management System Using Deep Reinforcement Learning, IEEE Systems Journal, (2020).
- **Mathew, A.**, and Mathew, J., Monocular Depth Estimation with SPN loss, Image and Vision Computing, (2020).

for full list click here

Areas of Interest

- 3D Computer Vision
- Adversarial Machine Learning
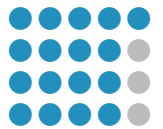- Reinforcement Learning
- Demand Side Management

Skills

Python	●●●●●
C	●●●●○
C++	●●●●○
C#	●●●●○
Pytorch	●●●●●
TensorFlow	●●●○○
OpenCV	●●●●●
Jetson TX2	●●●○○
Raspberry Pi	●●●●○

Awards

IoT Grand Challenge Runner-up
Indian Institute of Technology (IIT) Patna

2016

Bosch DNA Challenge Finalist
Bosch India

2017

Patna Ideathon Top 35
Government of Bihar

2018

Scholarships

Senior Research Fellowship
Ministry of Human Resource Development, Government of India

2018 - 2021

Junior Research Fellowship
Ministry of Human Resource Development, Government of India

2016 - 2018

Post Graduate Fellowship
Institute of Human Resources Development, Government of Kerala

2014 - 2016