

## **Research Fellow**

Name : Sagar Eknath Dhatrak  
Designation : Research Scholar  
Phone: 9730865503  
Email Id : sagardhat333@rediffmail.com  
Qualification: M.Sc Electronic Science  
Ph.D. Topic: Development of MAV(Micro Air Vehicle) for Simultaneous Localisation and Mapping(SLAM)  
Guide: Dr. D.C.Gharpure  
Research Interests: Embedded system And Robotics  
Work Experience: 5 years of Teaching as assistant professor and 4 years industrial experience as embedded system designer and trainer

Awards and Fellowships: NET,SET AND NET-JRF

Journal Publications:

1. Dhatrak S., Gharpure D. (2020) Real-Time Position Estimation of Mobile Platform in Indoor and GPS-Denied Environments. Innovation in Electrical Power Engineering, Communication, and Computing Technology. pp 389-400 Lecture Notes in Electrical Engineering, vol 630. Springer, Singapore.
2. "Automatic target detection", S.E.Dhatrak<sup>1</sup>, Dr.V.G.Wagh<sup>2</sup>, IOSR Journal of Computer Engineering (IOSR-JCE), e-ISSN: 2278-0661,p-ISSN: 2278-8727,PP 33-3, www.iosrjournals.org, Recent Trends in Computer Technology & Communication 2k16" (RTCTC-2k16) 33 | Page.
3. "Automatic bruise detection system using thermal images", \*Wagh, V. G. and Dhatrak, S. E. Department of Physics, KVN Naik College, Nashik, India, International Journal of Current Research Vol. 8, Issue, 08, pp.36958-36960, August, 2016.

4. "Surveillance Flying Robot", V. G. Wagh<sup>1</sup>, S. E. Dhatri<sup>2</sup>, International Journal of Emerging Technology and Advanced Engineering, Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 6, Issue 9, September 2016).
5. "Microcontroller Based Solution Delivery Pump for Spray Pyrolysis", N.S. Sangle, S. E. Dhatri, V.G. Wagh in the International Journal of Emerging Technology and Advanced Engineering ,Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 5, Issue 1, January 2015)
6. "Development of a GSM Based Power Control System", N.S. Sangle, S. E. Dhatri, V.G. Wagh in the International Journal of Emerging Technology and Advanced Engineering ,Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 5, Issue 2, February 2015).

#### Research Projects:

- ✓ **Developed Quadcopter using Arduino Microcontroller and IMU sensor**  
A Quadcopter is a multicopter lifted and propelled by four rotors. This project is developed using arduino microcontroller, IMU(Accelerometer,Gyroscope and Magnetometer) sensor, Bldc motors, ESCs, propellers, Li-po Battery 11.1v, Fly Sky transmitter - receiver and quadcopter frame. This quadcopter can balace itself while flying. To make this Quad copter autonomous, we used Arduino platform to program and applied PID algorithm to calculate the output values of motor commands by using input values from transmitter and IMU sensor. We used an Inertial Measurement Unit (IMU) sensor which gives values regarding tilting angles and angular velocities of quad copter.
- ✓ **Development of GSM SMS-Based Humidity Remote Monitoring and Control system for Industrial Applications**  
The system utilized Humidity sensor, AVR microcontroller and GSM technology using Sim300 GSM modem. Historical and real time data was accessed through GSM network. The proposed system monitored the humidity of the remote locations and sends an SMS to a concerned plant authority via GSM network whenever the humidity reached a pre-set limit. Plant authority was also able to send AT Commands to GSM MODEM to control the system. The design incorporated password security against operator misuse/abuse.
- ✓ **GSM based Security system for preventing vehicle theft**  
The design used IR sensor and touch sensor connected to the 8051, interfaced with GSM MODEM SIM900 connected to the engine. IR sensor and touch are placed at wheels and doors respectively. If a thief tries to tamper with the door lock, the sensor connected to door gets activated and sends a signal to 8051 microcontroller which in turn sends a SMS. If the thief bypasses the door and

manages to start the vehicle, IR sensor senses the wheel motion communicates with the microcontroller which applies the break. A SMS is also sent to the mobile.

- ✓ Developed project such as Automatic Target Detection using DWT, Automatic Bruise detection System for Apple.

Additional Info :

Link to Publication:

[https://link.springer.com/chapter/10.1007/978-981-15-2305-2\\_31](https://link.springer.com/chapter/10.1007/978-981-15-2305-2_31)

<http://www.iosrjournals.org/iosr-jce/papers/KVNNIEER/Volume%204/44-33-37.pdf?id=7557>

[https://ijetae.com/files/Volume5Issue1/IJETAE\\_0115\\_50.pdf](https://ijetae.com/files/Volume5Issue1/IJETAE_0115_50.pdf)

[http://www.ijetae.com/files/Volume5Issue2/IJETAE\\_0215\\_98.pdf](http://www.ijetae.com/files/Volume5Issue2/IJETAE_0215_98.pdf)

[https://ijetae.com/files/Volume7Issue6/IJETAE\\_0617\\_13.pdf](https://ijetae.com/files/Volume7Issue6/IJETAE_0617_13.pdf)

[https://ijetae.com/files/Volume6Issue9/IJETAE\\_0916\\_32.pdf](https://ijetae.com/files/Volume6Issue9/IJETAE_0916_32.pdf)

Linkedin Profile : <https://in.linkedin.com/in/sagar-dhatrak-32918982>

Google Scholar Profile : <https://scholar.google.com/citations?user=LOZ2XksAAAAJ&hl=en>  
[sagardhatrak444@gmail.com](mailto:sagardhatrak444@gmail.com)

Research Gate Profile : [https://www.researchgate.net/profile/Sagar\\_Dhatrak](https://www.researchgate.net/profile/Sagar_Dhatrak)  
[sed@electronics.unipune.ac.in](mailto:sed@electronics.unipune.ac.in)