Hemant Ghuge

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EDUCATION:

- **Government College of Engineering and Research** **Avasari(Khurd), Pune**
  Bachelor of Engineering in Electronics and Telecommunication, CGPA - 7.67 (Till 7th Semester) *Aug 2016 – Present*

INTERNSHIPS:

- **Tarsyer** **Koregaon Park, Pune**
  Computer Vision Intern *Aug 2020 – Present*
  - Achieved accuracy **99%** by creating TFLite Model with collaboration - 10 error in 1000 objects
  - Detection, Tracking, Counting, Deployment as per **customer requirement**.
  - **Technologies Used:-** TensorFlow, TFLite, OpenCV, Deep Learning, Raspberry Pi, Flask

PROJECTS:

- **Wall-Climbing Robot with Dual-Manipulator for Cleaning and Painting for a Concrete Surface** **CSIR-CBRI**
  *Summer Research Trainee, **Guide: Er. Ravindra Singh Bisht*** *Jul 2020 – Aug 2020*
  - Designed and developed control strategies for a wall-climbing robot having dual-arm.
  - **Technologies Used:-** Proteus, SolidWorks, Arduino

- *[UG PROJECT]* **Smart and Efficient Techniques for Automated Guided Vehicle** **Avasari(Khurd), Pune**
  *Team Representative, Computer Vision, Robotics, **Guide: Dr. Kirti Vasant Thakur*** *Jul 2019 – Jun 2020*
  - **3rd** in ABHIKALP 2020 & **Top 4%** (49 out of 1346 teams) in e-Yantra Ideas Competition 2020.
  - Computer Vision, Control System, Path Planning for performing various **Industrial-Based Task**.
  - **Technologies Used:-** Python, OpenCV, TensorFlow, Raspberry Pi, Arduino

- **MathWorks MiniDrone Competition, 2019** **NUMA, Bangalore**
  Team Captain, Image Processing, Control System *Jul 2019 – Oct 2019*
  - **Ranked 5th** in the final round. Amazing **mentorship** from the **Technical Evangelist** of MathWorks.
  - Designed a line follower and **angle estimation algorithm** for a Mini-Drone. It includes Model-Based-Design.
  - **Technologies Used:-** MATLAB, Simulink, Computer Vision and Control System Toolbox

- **Fire Rescue System (FRS) for High-Rise Building** **IIT, Bombay**
  Team Representative, Inventor, Robotics *Sep 2018 – Apr 2019*
  - Finished in **Top 2%** (21 out of 1000+ teams) in e-Yantra Ideas Competition 2019.
  - **₹5000** as cash prize and special pass to e-Yantra National Symposium 2019.
  - Developed a secondary evacuation system. Appended speed-varing feature for the operator/rescuer.

- **National DD Robocon India**
  Senior Team Member, Robotics Research Lab *Team of 40 students*

Edition	Award	Rank	Venue	Timeline
18^{th}	Judges Special Award	4^{th}	IIT, Delhi	Sep 2018 – Jun 2019
17^{th}	Smart and Simple Robot Award	2^{nd}(League)	Balewadi, Pune	Sep 2017 – Mar 2018

  - In every edition, we built **two 20kg**(apx.) **Manipulator** based **Mobile Robot** for performing multiple tasks.
  - Tasks such as navigation, obstacle avoidance, picking, throwing, transferring etc. were executed.

RESEARCH PUBLICATION:

- **Hemant Ghuge**, Revati Kulkarni, et. al.*"Fire Rescue System for High Rise Building"*, **5th IEEE International Conference On Computing, Communication, Control And Automation (ICCUBEA)**, 19-21 Sept. 2019. **Best Paper**(In Session)
- Unnati Kulkarni, **Hemant Ghuge**, et. al.*"An Algorithm for Skew Angle Estimation and it's Application Domain"*. In: Merchant et. al., (eds) **Advances in Signal and Data Processing**. Select Proceedings of ICSDP 2019, 15-16 Nov. 2019, *Lecture Notes in Electrical Engineering*, vol. 703. **Springer, Singapore**
- Tejas Chaudhari, **Hemant Ghuge** et. al.*"Design and Control of Quadruped Robot along with Machine Vision based Path Planning"*, **IEEE Pune Section International Conference (PuneCon)**, 18-20 Dec. 2019