

Anant SHUKLA

Embedded Systems Engineer | Software Developer

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DOB : May 02, 1998



IT Engineer interested in Internet of Things, Embedded Systems, Control Systems, Machine Learning and Autonomous Vehicles

COMPETENCIES

Programming Languages C++ : Advanced, Embedded C : Advanced, HTML/CSS : Advanced, PHP : Advanced, Java Script : Advanced, Python : Proficient, Java : Intermediate

Electives Cloud Computing, Cryptography, Data Science and Big Data, Software Testing, Engineering Economics And Financial Management

Development Tools NetBeans, Visual Studio, PyCharm, git, Atom, QT Creator, ROS : Robot Operating System
MATLAB : Programming, Image Processing Tool Box, Control System Toolbox

WORK EXPERIENCES

- Present- December 2017** | **Team Leader | Lead Embedded Systems | Computer Vision | Control Systems Engineer , SRM TEAM ODYSSEY, Chennai, India**
- Developed an Amphibious Reconnaissance Vehicle capable of Aerial, Underwater and sea level operations for the Defence Research and Development Organisation (DRDO). Project funded by DRDO and SRM Institute of Science and Technology. 2nd position in DRDO-DRUSE regionals 2018. 5th position in DRDO-DRUSE nationals 2018. Overall cash prize of 1 Lakh Rupees.
 - Currently developing systems for an Unmanned Ground Vehicle (UGV) which is capable of autonomous navigation for Intelligent Ground Vehicle Competition 2019 (IGVC) in Oakland, USA
- Amphibious Bot Robot DRDO Multirotor Underwater Vehicle Aerial Vehicle Defence Ship surveillance
- Present- August 2016** | **Embedded Systems Engineer | Team Manager, SRM UNMANNED AERIAL VEHICLE (SRM UAV), Chennai, India**
- Best Technical Design in AUVSI SUAS 2019. Received cash prize 1450 USD. Competed in the 2018 and 2017 editions as well. The competition is held in Patuxent River Naval Airbase in Maryland, USA.
 - Problem statement requires the team to develop a UAV for a 20 mile mission capable of autonomously taking off and completing a way-point mission followed by obstacle avoidance and an ODL task which requires image processing, followed by an autonomous detection of a lost hiker, and dropping a payload UGV (Unmanned Ground Vehicle) which is supposed to drive to the lost hiker and deliver relief material. At the end of the mission, the UAV should land back at the designated runway autonomously.
- UAV Embedded Systems Research Aerial Robotics AUVSI-SUAS Medical Express
- Present- June 2018** | **Co-founder, FIREFLIES INNOVATION, Chennai, India**
- A B2B2C startup developing personalised and smart wind energy solutions for homes.
 - Lighter than air wind turbine hooked on to rooftops that float at 300ft to generate energy efficiently
 - Directly links energy to the consumer thereby eliminating cost of conventional energy transmission and production. The startup is incubated and funded by SRM Innovation and Incubation Centre. The product is being piloted throughout the SRM campus.
- Entrepreneurship Wind Energy Innovation Databases Sensors Automation
- December 2017- January 2018** | **Intern, WESEE : Weapons And Electronics Systems Engineering Establishment, MINISTRY OF DEFENCE : INDIAN NAVY, New Delhi, India**
- Worked on efficient data structures, like Red-Black Trees for the understanding of the Linux Scheduler
 - Worked on the Lifecycle of development of a Software
 - Worked on GUI Development on QtCreator(C++)
- UNIX System File System QT Creator C++ Red Hat

EDUCATION AND ACADEMICS

2020 B.Tech -Information Technology - SRM Institute of Science and Technology. **Percentage : 80.26%**
2016 Class 12 - Navy Children School, Delhi. **Percentage : 74.6%**
2014 Class 10 - Air Force School, Jamnagar. **CGPA : 8.4**

PROJECTS

- **Attendance and Inventory Management System for TATA**
Developed an Employee Attendance system, and an Inventory Management System for Internship at PLS Automobile, Tata Motors
- **Mission Planner : SRM UAV**
Developed the Distributed systems for the mission data and telemetry. This is coupled with web interface which is used for the mission planning and the task planning.
- **Autonomous Drive of an Unmanned Ground Vehicle**
Working on the control systems of an Autonomous UGV. Completed Lane Detection using image processing on a stereo vision and a steering control based on a PID Controller.
- **DBMS : Hotel Management System**
Built a full stack web project to manage Hotel Bookings for multiple users and the hotel administrator and employees. All of this was deployed on Cloud.
- **Sensor Glove**
Currently working on a Flex Sensor Glove that reads American Sign Language to aid people with hearing or speech impairments
- **Car Parking**
Made an autonomous parallel car parking with the help of a microcontroller coupled with various other sensors for 1st year project

HONORS AND ACHIEVEMENTS

- AUVSI Student Unmanned Aerial Systems 2019 - Best in Technical Design with cash prize of 1450 USD. 75 participating international teams in the competition organised by Robonation held at Patuxent River Naval Airbase Maryland, USA
- DRDO Robotics and Unmanned Systems Exposition (DRUSE) 2018 - Zonal Rank 2 amongst 513 projects. Competition conducted by the Defence Research and Development Organisation (DRDO) in Bangalore.
- DRDO Robotics and Unmanned Systems Exposition (DRUSE) 2018 - National Rank 5 amongst 1088 projects. Competition conducted by the Defence Research and Development Organisation (DRDO) in Pune.
- AUVSI Student Unmanned Aerial Systems 2018 - World Rank 4 out of 89 teams in a competition organised by Robonation at Patuxent River Naval Airbase Maryland, USA
- Medical Express Outback Challenge, Australia 2018 - Top 20 in 564 teams
- AUVSI Student Unmanned Aerial Systems 2017 - World Rank 11 amongst 67 teams in a competition organised by Robonation held at Patuxent River Naval Airbase Maryland, USA
- 1st prize in Techproject, SRM Institute of Science and Technology for project titled 'Home Automation'

LANGUAGES KNOWN

English	●	●	●	●	●
Hindi	●	●	●	●	●
Korean	●	●	●	○	○





STRENGTHS

- Leadership Skills
- Hard-worker
- Ambitious and Innovative
- Communication Skills
- Team Player

RESEARCH PAPERS

- Particle Swarm of Multiple UAV's for Resource Allocation in Humanitarian Aid and Disaster Relief Operations
February 2019 | SCOPUS
- Design and Systems of an Amphibious Reconnaissance Vehicle
January 2019 | SCOPUS

ONLINE CERTIFICATIONS

- Robotics : Aerial Robotics | January 2018
Coursera : University of Pennsylvania | Prof Vijay Kumar
 [Certificate - Aerial Robotics](#)
- Building Web Applications in PHP | August 2019
Coursera : University of Michigan | Prof Charles Severance
 [Certificate - Web applications in PHP](#)
- The Arduino Platform and C Programming | Sept 2018
Coursera : University of California | Prof Ian Harris
 [Certificate - Arduino](#)
- Programming in Python | March 2019
Coursera : University of Michigan | Prof Charles Severance
 [Certificate - Programming in Python](#)