

JERRIN BRIGHT

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PERSONAL PROFILE STATEMENT

I am a versatile and self-motivated engineer highly skilled in Autonomous Systems and Robotic Real-time Perception, focusing on autonomous cars and aerial systems. Driven by desire for challenges that push me beyond my limits and eventually aid in the advancement of society regardless of affordability and background.

QUALIFICATIONS

Vellore Institute of Technology, Chennai, India
Bachelors of Technology in Mechanical Engineering

June 2018-April 2022 (expected)
Cumulative GPA: 8.25/10.0

AREA OF EXPERTISE

Design and Simulation Tools
Programming Tools
Other Tools

Gazebo, RViz, MATLAB, SOFA, Fusion360, SolidWorks, Proteus
Python, C++, Embedded System, Shell, HTML, CSS, JS, PHP
ROS, Git, MoveIt, OpenCV, TensorFlow, PyTorch, PCL, Heroku

PROFESSIONAL EXPERIENCE

Globalink Research Intern @ McMaster University, Ontario, Canada

Starting July 2021

Designing and testing software for controlling a pneumatically-powered soft robot arm. It will acquire real-time data from several sensors, and implement a suitable controller. **(Supervised by Prof. Gary Bone)**

Summer Research Intern @ Arizona State University, Phoenix, USA

May 2021-Present

Using laser scanning, photogrammetry to digitalize environments via visualizing data collected from sensors fusing into a unified system. It will be processed to provide insights to stewards. **(Supervised by Prof. Thomas Czerniawski)**

Autonomous System Developer (ASD) - Intern @ Aero2Astro, India

Oct 2020-April 2021

Developing ROS based autonomous navigation firmware using Visual Inertial SLAM concepts for indoor environment. Implementation was based on Sensor Fusion (EKF) and is aimed to eradicate the use of GPS.

Data Science Intern @ BrainMagic InfoTech Pvt, Chennai, India

May – July 2020

Automobile fault detection using vision techniques resulting in an IOU of 95%. Dimensional analysis was done to locate defects and monitor it. Later, was deployed in AWS using Amazon Sagemaker and S3 Buckets.

Project Research Intern @ Yuan Ze University, Taoyuan City, Taiwan

April – June 2020

Built a robust smart parking system using semantic segmentation with Conv. Conditional Random Fields and Atrous Convolution enhancing the visual capability of the system. **(Supervised by Wei-Tyng Hong)**

Team Captain and Co-Founder @ Atom Robotics, VIT Chennai, India

Jan 2019 - Present

An Intelligent Robotics & Satellite exploration team consisting of 50+ aspiring young minds. The team focuses on Intelligent ground vehicles targeting IGVC, USA; Planetary Aerial System targeting IPAS, MSSA.

RESEARCH AND PUBLICATIONS

Jerrin Bright et al 2021 IOP Conf. Ser.: Mater. Sci. Eng. 1012 012019

Optimization of quadcopter frame using generative design and comparison with DJI F450 drone frame

Jerrin Bright et al 2021 (In Progress)

A Novel Dynamic Obstacle Avoidance Algorithm using Panoptic Segmentation and Optical Flow Techniques

RESEARCH PROJECT

3D Pose Estimation using Stereo Visual Odometry

Feb – April 2021

Techniques: SLAM, FLANN, ORB, PnP, RANSAC, KLT Optical Flow

Autonomous MAV enhanced with door-to-door delivery topographies

Dec – Jan 2020

Techniques: ROS, PID Control, Gazebo, RViz, Navigation, AMCL, Path Planning

SLAM embedded AGV for autonomous navigation

Sep – Oct 2020

Techniques: SLAM, ROS, Kinect + IMU, Sensor Fusion, Gazebo, RViz, Mapping, Path Planning

An Autonomous Planetary Aerial System for Martian Exploration

Jan – Feb 2021

Techniques: VTOL CFD Analysis, PCB Designing, Orthomosaic stitching, XBee Communication

Intelligent Visual Robotic Inspection system for fault detection

Jan – Feb 2021

Techniques: LBPH, Deep Learning, Fused Networks, Attention embedded Residual Network

ACCOLADES AND RECOGNITION

Outstanding Research Paper Award

RIACT 2020 International Conference

Recognized Galactic Problem Solver

NASA International Space Challenge

Top Ten Internationally

International Planetary Aerial System Challenge'21

Second Runner-up, IEEE Hackathon

Apogee'21, BITS Pilani Campus

EXTRA-CURRICULAR

Machine Learning Contributor Contributing ML blogs to various blog-based companies. Have published 13 blogs.

Madras Scientific Research Foundation, NGO Spreading awareness on robotics in schools, amongst unprivileged kids

National Service Scheme Active Member of Indian Government sponsored public service program.