Shriarulmozhivarman G C

ROS Developer | Computer Vision Engineer

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EDUCATION

Le Creusot, France
Sep., 2020 - Sep., 2022

University of Burgundy
Masters of Science – Computer Vision
Specialization: Vision and Robotics
Thesis: ⚲ Robust RGB-Depth images Fusion for Salient Object Detection

Vilnius, Lithuania
Sep., 2015 - Jun., 2019

Vilnius Tech
Bachelor of Science – Mechatronics
Specialization: Mechatronics and Robotics
Thesis: ⚲ Design Of Collaborative Indoor Robots

WORK EXPERIENCE

Dijon, France
Feb., 2022 - Jul., 2022

Imagerie et Vision Artificielle (ImViA) - University of Burgundy
Research Internship, Supervisor : Prof.Dr.Cédric Demonceaux
Topic: RGB-Depth Fusion for Salient Object Detection

- Proposed a novel attention modules to explicitly leverage the depth quality images.
- Improved the vanilla spatial attention to efficiently address the depth misalignment problem with RGB images.
- Integrated the model for real-time processing with ROS for salient object detection.

Le Creusot, France
Jul., 2021 - Sept., 2021

Imagerie et Vision Artificielle (ImViA) - University of Burgundy
Computer Vision Internship

- Implemented a pipeline for robust feature detection and matching for Epipolar geometry.
- Applied and compared state of the art methods for feature detection and matching of multi-view.
- Gathered and annotated a temporal dataset on a dynamic environment for autocalibration.

Coimbra, Portugal
Jul., 2018 - Sept., 2018

Ingeniarius
Robotics Internship

- Design and development of a multi-sensor differential drive mobile robot.
- Integrated Arduino and Raspberry pi using ROS to exchange complex data.
- Implemented maze solving algorithm into finite-state machines on ROS.

PROJECTS AND COURSES

Le Creusot, France
Sept., 2021 - Jan., 2022

Robotics Research Lab, Condorcet University Center
⚲ **Mobile Robot Autonomous Perception and Navigation**

- Developed an efficient automated perception workflow for lane detection and autonomous driving with ROS.
- Calibrated a fisheye camera in eye-to-hand configuration for pose estimation.
- Applied visual odometry pipeline on calibrated RGB camera in the mobile robot for robust pose estimation and compared them with an estimation from the fisheye camera.

Nov., 2020 - Jan., 2022	**Open CV Online Course** ✎ **Deep Learning with PyTorch**

- Implemented vision tasks such as Image Classification, Scene Segmentation, Object Detection, Action Detection and Pose Estimation on open-source datasets.
- Dockerized the implemented models into images for deployment on cloud(amazon lambda).
- Creation and maintenance of datasets for deployment and inference.

Jan., 2020 - Mar., 2020	**edx Online Course** ✎ **Hello (Real) World with ROS – Robot Operating System**

- Software representation of a Robot using Unified Robot Description Format (URDF) and real-world objects in simulation environment.
- Implemented map creation of environment and autonomously navigation of mobile robot with created map using ROS navigation tools.
- Integration of motion planning, pick and place behaviors using industrial robots with ROS MoveIt.

PUBLICATIONS

PRAGUE, CZECH REP. Sep., 2022	**10th International Conference on 3D Vision** ✎ **Robust RGB-D Fusion for Saliency Detection**

ACHIEVEMENTS

Sep., 2020 - Sep., 2022	**15th Batch of International Programme in VIsion roBOTics (VIBOT)** ✎ **Best Student of 2020 - 2022**

SKILLS AND ABILITY

Programming Languages: Python, Matlab, C++.

Machine Learning Tools: PyTorch, Sklearn, Tensorflow, PyTorch Lightning.

Computer Vision Tools: OpenCV, PIL, Matlab Image Processing Toolbox.

Operating Systems: Linux, ROS, ROS2.

Hardware Tools: Arudino, Raspberrypi, Jetson Devices.

CI/CD Tools: Git, Docker, Streamlit, Kubernetes.

REFERENCE

Prof.Dr.David Fofi
Deputy Director of Imagerie et Vision Artificielle (ImViA) - University of Burgundy
david.fofi@u-bourgogne.fr

Prof.Dr.Cédric Demonceaux
Thesis Supervisior at Imagerie et Vision Artificielle (ImViA) - University of Burgundy
cedric.demonceaux@u-bourgogne.fr

LANGUAGES

🔤 English-*C1* 🔤 German-*A2* 🔤 French-*A2* 🔤 Tamil -*Native*

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