Malav R. **Bateriwala**

JOINT MASTER'S STUDENT · COMPUTER VISION-ROBOTICS

Bowen Hills, Brisbane, Australia

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"Computer Vision and Robotics Student with 3+ years Industrial experience in Automation Robotics. Proficient in Python, C++ and Matlab. Machine learning and Algorithm Enthusiast."

Experience

CSIRO   *Brisbane, Australia*

MASTER'S THESIS - Unet-Segmentation-Pytorch-Nest-of-Unets   *January 2019 - Present*

- Enforcing temporal consistency in Deep Learning segmentation of brain MR images. Investigate different approaches to reduce variance, including subject specific priors, longitudinal constraints, use of multiple time-points during the segmentation etc.
- Tools : Pytorch, SimpleItk, openCV, numpy, scipy, Tensorboard

Keepsake Automation Pvt. Ltd.   *Ahmedabad, India*

SUMMER INTERNSHIP   *June 2018 - Aug. 2018*

- Developed a system for continuous part inspection of automation line to check for defects and deformation using machine learning models and thermography.
- Tools : Keras, Tensorboard, numpy, Flir E50 package

Keepsake Automation Pvt. Ltd.   *Ahmedabad, India*

APPLICATION ENGINEER & TEAM LEAD   *May 2016 - Aug. 2017*

- Responsible for Onsite Robotics and SPM installation and commissioning
- Recognized for developing turnkey solution for customers like L&T, Indian Railways, TATA Motors, Mahendra etc.

KUKA Robotics India Pvt. Ltd.   *Pune, India*

CUSTOMER SERVICE ENGINEER & SITE SUPPORT ENGINEER   *June 2014 - April 2016*

- Responsible for Onsite programming , servicing and training of Robots.
- Promoted to hotline support to international clients in Welding and Vision Application.
- Major Sites - Ford Motors , Volkswagen, TATA Motors, Magna Cosma, Mercedes, MRF Tires

Education

Erasmus Mundus Masters in Computer Vision and Robotics   *Edinburgh, UK*

VIBOT (CLASS RANK- 3)   *Sept 2017 - PRESENT*

- Université de Bourgogne (France-1st semester)
- Universitat de Girona (Spain- 2nd)
- Heriot-Watt University (Scotland-3rd)

Pandit Deendayal Petroleum University   *Gandhinagar, India*

B. TECH IN ELECTRICAL ENGINEERING (CLASS RANK- 12)   *Aug. 2010 - May 2014*

Major Projects

Home Service robot for elderly   *HW, Edinburgh*

ERL COMPETITION   *Sept. 2018- Dec. 2018*

- Implemented different techniques for motion, planning, manipulation, face detection and speech recognition on TIAGO robot
- Languages: Python, C++, ROS

Pascal Project Challenge   *UdG, Spain*

SSI - FINAL PROJECT   *March 2018-May 2018*

- Achieved the task of Image Classification and detection realistic scenes images using bag of words (BoW) strategy.

Autonomous Exploration, Mapping and Path-Planning using Octomap

UdG, Spain

AUTONOMOUS ROBOTICS - FINAL PROJECT

Mar. 2018 - May 2018

- Achieved to create an informed search algorithm for autonomous exploration using frontier based A* approach and sampling based path-planning algorithm using rapidly exploring random tree star(RRT*) using a 3D map
- Language : Python (ROS)

Registration of Images using Elastix

UdG, Spain

MEDICAL IMAGING - FINAL PROJECT

Apr. 2018 - June 2018

- Developed an Algorithm for registration of Medical Images using Atlas, so that False Positive can be highlighted.
- Language : Python (SimpleITK)

ChatBot using Cornell Movie Corpus

GitHub

PERSONAL PROJECT

Jan. 2018 - Mar. 2018

3D Human Scanner

Ub, France

SOFTWARE ENGINEERING - FINAL PROJECT

Oct. 2017 - Jan. 2018

- Developed a 3D human body scanner software using Microsoft Kinect which creates a watertight Mesh using PCL and OpenCV.
- Language : C++

Face Recognition using Principal Component Analysis (PCA)

Ub, France

APPLIED MATHEMATICS - FINAL PROJECT

Nov. 2017 - Jan. 2018

Professional Certificates ─────────────────────

2018	**OpenCV**,	for Python and Machine Learning	*Udemy*
2018	**Machine Learning**,	with Python and Keras	*Udemy*
2016	**Beckhoff**,	TwinCat - NCI training	*Beckhoff Gmbh*

Awards & Extracurricular Activity ─────────────

AWARDS

2018	**International Scholarship**,	Erasmus Mobility Grant	*European Union*
2018	**Scholarship**,	Regional Burgundy Grant for International Education	*Burgundy, France*
2017	**Satanders Grant**,	UdG grant for Tuition Fees	*Girona, Spain*
2016	**IJSER paper**,	Wireless Camera on an Industrial Robot for 2D and 3D imaging and applications	*Pune, India*
2013	**IEEE Idea Lab Award**,	Closed Loop Washing Machine	*Ahemdabad, India*
2013	**Finalist**,	Corporate Business Paper Presentation	*Gandhinagar, India*
2013	**12th Position**,	ASIA Level RoboWar-60 Kg Competition	*Mumbai, India*
2012	**3rd Position**,	ASIA Level RoboWar-20 kg Competition	*Ahemdabad, India*

EXTRACURRICULAR ACTIVITY

2012-13	**Publicity Head**,	IEEE Student Chapter	*PDPU, India*
2011-13	**Captain** ,	Lawn Tennis Team	*PDPU, India*

Languages and Technologies ──────────────────

COMPUTER LANGUAGES

Python, (Pycharm, Jupyter, QT , Spyder), **C/C++**(Visual Studio, Qt Creator, Eclipse), **Matlab**, **LaTeX**, **KRL**

LIBRARIES, TOOLS, FRAMEWORKS

Python/C++, OpenCV, Pytorch, TensorFlow, Keras , Pandas, Numpy, scipy, scikit-learn, Robot Operating System (ROS), Gazebo, Open Motion Planning Library (OMPL), Point Cloud Library (PCL),MESHLab, MevisLab