

Contact

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Programming

C/C++ STL, Matlab
Python, CUDA
JavaScript, HTML
PHP, CSS, Oracle
MySQL, Android SDK

Skills

Machine Learning
Optimization,
Recognition,
Regression, Caffe
Mapping, Localization
Visual SLAM, ROS
Tracking, 3D Geometry
Point-cloud, OpenCV
Image Segmentation, Qt
OpenGL, ITK, VTK
git, Mercurial
Agile Development
Linux, Latex

Languages

Bengali ★★★★★
English ★★★★★
French ★★★★★

AlArafat

Research Interest

Learning & Geometry based Computer Vision Machine Learning
Image Segmentation Visual SLAM Tracking Robot Learning

Education

2014 - 2016 **M.Sc in Erasmus Mundus Vision and Robotics(VIBOT) program**
University of Burgundy, France. University of Girona, Spain. Heriot-Watt University, UK.

Courses: Link to course modules

Thesis: Image processing methods for detecting and inspecting the elements on the airplane. [Research Group: Institut Clement Ader]

Worked under the scope of Aircobot project, in a collaboration with Airbus. My contributions were to detect and inspect Airbus A320's tires, tire chocks, pitot tubes, and engine blades, using computer vision and machine learning techniques.

2005 - 2009 **B.Sc.Engg. in Computer Science and Engineering**
Rajshahi University of Engineering & Technology, Bangladesh.
Thesis: Intelligent Autonomous Vehicle Navigated by using Artificial Neural Network & DTMF signaling over GSM Network.

Experience

12/16 - Now **R&D Engineer (Computer Vision and Machine Learning)** Softkinetic International SA, Brussels, Belgium

Working on developing algorithms for Computer Vision, Machine Learning, and Visual SLAM related projects using our SoftKinetic TOF DepthSense® camera.

09/13 - 12/16 **Senior Lecturer, Computer Science** Bangladesh University of Business & Technology
Engaged in undergraduate teaching and project supervision.

01/16 - 07/16 **Internship** Ecole nationale supérieure des mines d'Albi-Carmaux, France
Worked towards Master thesis, in the field of Computer vision & Machine Learning.

09/12 - 09/13 **Lecturer, Computer Science** Dhaka International University, Bangladesh
Engaged in undergraduate teaching and project supervision.

Awards

2014 - 2016 **Erasmus +: Erasmus Mundus Scholarship by European Commission.**
2010 **Best Student Award for Obtaining 1st position in the year 2008.**
2010 - 2012 **University Merit Scholarship, awarded by RUET in 3 consecutive years.**

Selected Publications

2016 Jovancevic I., Arafat A., Orteu J.-J., Thierry Sentenac: **Airplane tire inspection by image processing technique**, In 5th Mediterranean Conference on Embedded Computing, MECO'2016, Bar, Montenegro.

2012 Firoz Mahmud, Al Arafat, Syed Tauhid Zuhori : **Intelligent Autonomous Vehicle Navigated by using Artificial Neural Network**, at IEEE Xplore conference, International Conference on Electrical & Computer Engineering (ICECE), pp.105-108

Selected Projects

- Deep reinforcement learning to optimize interaction for a robotic tutor
- Multi Sensor Image Fusion and Tracking people
- Spectral Mesh Analysis: Toward a simple implementation in C++
- PASCAL: recognition of objects from a number of visual object classes in realistic scenes
- Medical Image Analysis Challenge: 3D Breast Ultrasound Image segmentation
- Implementing Extended Kalman Filter based SLAM using ROS
- Robot Learning using Reinforcement Learning: Q-learning.
- Tangent Bug algorithm implementation over a real e-puck robot