

# Sayem Mohammad Siam

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## HIGHLIGHTS

- Research expertise (2+ years) in **Image Processing, Robotics, Machine learning and Probabilistic Model**
- Two years work experience as a software developer at **Samsung R&D Institute**
- Designed and developed several **Android and Tizen applications**
- Developed several **websites** using MySQL, PHP, Javascript, JQuery, HTML and CSS
- Expertise in **Java, Python, C&C++, UNIX, PHP, HTML, CSS, JavaScript, JQuery, Matlab, ROS, MySQL, Oracle, git, svn, AWS**
- Ranked **43 among 20452** global Samsung contestants in Samsung Sotong topcoder
- **Runner up** in the Intra-IUT programming contest 2011 among 20+ teams
- Open to relocation

## WORK EXPERIENCE

CURRENT  
SEP 2014

TEACHING AND RESEARCH ASSISTANT  
**University of Alberta**, Edmonton, Canada

- **Teaching Assistant:** Game Theory (C++), Data Structure (Python), Image Processing (Python) Responsibilities: Delivered lab lecture, solved students' code bug, graded exam scripts, conducted weekly help sessions.

### Research Projects:

- Bear Detection Using Convolution Neural Network (Python, Matlab, AWS)
  - Used CNN model (pre-trained on ImageNet dataset) to extract image feature
  - Compared the result between HOG+SVM and CNN+SVM
- Gender and age group classification using Markov Random Field (Matlab)
  - Used Gaussian Markov Random (MRF) Fields to build functional connectivity models that can be used as classifiers using resting-state fMRI data
- Existing algorithms comparison for 3D Mapping and Tracking (Python and ROS)
  - Compared performance of PTAM and DTAM algorithm for different dataset
- SLAM using Recursive Bayesian Filter (Python and ROS) [git link](#)
  - Used Global image descriptor for image matching score
  - Used image matching score as observation likelihood in Bayes filter and Geometric verification for loop-closure nodes.
- Auto-pilot for Husky and Kingfisher Robots (Python and ROS) [git link](#)
  - Users can select any path using Google map and robot will follow that path with avoiding obstacles

SEP-2014  
NOV-2012

SOFTWARE ENGINEER  
**Samsung R&D Institute**, Dhaka, Bangladesh

- Designed and Implemented Android Benchmark Application(Java, OpenGL)
  - Designed project architecture
  - Implemented I/O, 2D graphics and 3D graphics testing part
  - Implemented leader-board in order to see the results
- Android Remote Access Application(Java)
  - Implemented the Android application for the remote phone
- Developed several Applications for Tizen Phone ([www.tizen.org](http://www.tizen.org))(C++)
- Developed Tizen Gear App(HTML, Javascript, jQuery)
- Sound Engine Prototyping for Tizen OS(C++)
- Implemented my own Idea: Human fingertip detection, tracking and gesture recognition(Matlab)
- Developed Unit test cases for Tizen Native API(C++)

JUL-OCT 2008  
JAN-2010

ANDROID AND WEB DEVELOPER  
**Omicron-IT**, Dhaka, Bangladesh

- Developed several websites using MySql, php, html, css, javascript, jquery
- Designed and developed following Android Applications:  
Google Play Store Link [Salesman Game](#), [Tourist Assistant](#), [Location Quiz](#), [Ultimate Converter](#)

## EDUCATION

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Current SEP 2014	<p>M.Sc. (Thesis Based) in COMPUTING SCIENCE Expected Completion: October, 2016 <b>University of Alberta</b>, Edmonton, Canada <i>Coursework: Machine Learning, Robotics, Probabilistic Graphical Model, Computer Vision, Reinforcement Learning, Teaching and Research Methods</i></p> <p>Master's Thesis (Computer Vision and Robotics): Proposed a new algorithm for SLAM and multi-robot map merging (submitted paper at ICRA), (Implemented using Python, Matlab, <a href="#">git link</a>)</p> <ul style="list-style-type: none"><li>• Sparse difference Matrix using Approximate Nearest Neighbor and sequence matching</li><li>• Real time algorithm for SLAM and Map merging</li><li>• Better performance than SeqSLAM algorithm, a successful algorithm for visual SLAM</li></ul>
OCT-2012 JAN 2009	<p>B.Sc. in COMPUTER SCIENCE AND ENGINEERING <b>Islamic University of Technology</b>, Gazipur, Bangladesh <i>Undergrad Thesis: System Input Using Marker Based Hand gesture recognition</i> (<a href="#">Project Demo</a>)</p>

## SCHOLARSHIPS AND CERTIFICATES

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- 2009    OIC Scholarship for Full Free Undergraduate studies at Islamic University of Technology.  
2006    Board Scholarship for excellent result in 12<sup>th</sup> grade public exam.

## VOLUNTEER

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- Developed IUT-4th National ICT FEST's [website](#), using html, css, php and mySql
- Arranged programming workshops at Samsung R&D Institute Bangladesh.
- Conducted Linux training at Samsung R&D Institute Bangladesh for the new Interns.
- Organizing member of IUT-4th National ICT FEST 2012, where 2000+ people turned out.

## WORKSHOPS

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- Demonstrated Auto-pilot project in NSERC Canadian Field Robotics Network (NCFRN) Field Trial 2015.
- Attended several Programming workshop from Islamic University of Technology Computer Society (IUTCS).

References are available upon request.