

# ASHRAFUL ISLAM

1511 Hutton St ◇ Troy ◇ NY  
(347)-536-0812 ◇ islama6@rpi.edu

## EDUCATION

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### Rensselaer Polytechnic Institute

Aug 2017 - Present

**PhD**, Computer and Systems Engineering

Advisor: Prof. Richard J. Radke

### Bangladesh University of Engineering and Technology

May 2012 - Feb 2017

**BS**, Electrical and Electronic Engineering

Overall GPA: **3.93/4.00**, Rank: **7/194**

## TECHNICAL STRENGTHS

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### Research Expertise

Computer vision, Image Processing, Machine Learning

### Computer Languages

Python, MATLAB, Java, C, C#, Verilog, Assembly, Javascript

### Software & Tools

HTML, LaTeX, Proteus, Cadence, Android Studio

## RESEARCH EXPERIENCE

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### Graduate Research Assistant

Aug 2017 - Present

*Rensselaer Polytechnic Institute, Troy, NY*

- Research interests are computer vision and machine learning, with special focus on object detection and tracking
- Affiliated with DHS Center of Excellence on Awareness and Localization of Explosives-Related Threats (ALERT)

### Undergraduate Thesis

Feb 2016 - Jan 2017

*Bangladesh University of Engineering and Technology*

- modeled and implemented method to extract heart rate from PPG signal obtained during intense physical movement
- developed an Android app based on my algorithm that can measure real-time heart rate from PPG data collected from HRM sensor on modern smart-phone

### Undergraduate Research

Sep 2015 - Jun 2016

*Bangladesh University of Engineering and Technology*

- developed an intelligent system that could classify media recordings according to the grid-of-origin with significant accuracy, was awarded Grand Prize in IEEE Signal Processing Cup Competition for this project

## ACADEMIC ACHIEVEMENTS

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**1st** prize in IEEE Signal Processing Cup Competition 2016, Shanghai, China with \$5,000 scholarship for the team

**Dean's list award** in all levels in undergraduate program

**University merit scholarship** four times for achieving GPA 4.00/4.00

Ranked **1st** in BUET Undergraduate Admission Test

Ranked **3rd** in Dhaka University Admission Test (out of 80,000 candidates)

## ACADEMIC PROJECTS

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*Medical Assistive Robot With Voice Recognition:* designed the hardware with Arduino and built a real time voice recognition system.

*LED Cube:* built an 8x8 LED cube that could show different 3D shapes with simple logic gates

*8 bit PC with Assembly Language:* built a simple as possible computer that could perform sixteen basic operation in Assembly language

*Grapher:* built a MATLAB app that can draw 2D and 3D graph and perform different mathematical operations with visualization