# Zareen Choudhury

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## Education

**Massachusetts Institute of Technology**, Cambridge, MA

*Candidate for Master of Engineering in Electrical Engineering & Computer Science* Expected June 2019

- Concentration in Computer Systems (Courses: Networking, Distributed Systems, Operating Systems)
- Master's thesis research in Networks at MIT group under Prof. Dina Katabi

*Bachelor of Science in Electrical Engineering & Computer Science* June 2018

- GPA: 4.8/5.0, IEEE Eta Kappa Nu Honors Society, Angle Research & Innovation Scholar, Teaching Assistant
- Courses: Machine Learning, Computer Vision, Linear Algebra, Probability & Stats, Microcontrollers, Digital Systems, Circuits, Computation Structures, Software Design, Algorithms

## Skills

- Programming languages: Python, Java, C, Go, Scala, Verilog, Objective-C, C#, Lua
- Other: Cassandra, Kafka, Spark, iOS development, Android development, FPGA programming

## Projects

**Smart Window**, Microcontrollers Lab Final Project April 2017-May 2017

- Built a window whose transparency changes with ambient light to maintain user-specified brightness levels
- Implemented automation algorithms in C on PSoC microcontroller, and UI in HTML for Amulet touchscreen

**La PC-na,** Digital Systems Lab Final Project Oct 2016-Dec 2016

- Built an interactive pool table using an FPGA in which users strike virtually displayed balls with a real cue
- Implemented algorithms in Verilog for cue tracking and speed calculation, cue collisions, and ball friction

**iSight,** Assistive Technology Class Project, *Computer Vision Software Developer* Sep 2015-Dec 2015

- Developed software for portable device to enable blind individuals to interact with touchscreens
- Used OpenCV for text detection and Tesseract for text interpretation in Android application

## Research & Work Experience

**Networks at MIT Group - MIT CSAIL,** *Master's Thesis* August 2018-present

- Developing distributed networking infrastructure for IoT sensors tracking patient movements through walls

**Distributed Robotics Lab - MIT CSAIL,** *SuperUROP Scholar* September 2017-May 2018

- Improved implementation of Canopy, a cloud robotics platform for message transmission/cloud computing

**Yelp,** *Distributed Systems Intern* May 2017-August 2017

- Developed a system to support Lua plugins in HAProxy/NGINX for policy routing decisions in SmartStack

**Dexcom,** *Server Development Intern* June 2016-August 2016

- Developed real-time processing pipeline to handle data from continuous glucose monitoring (CGM) device
- Wrote in Scala, used Kafka and Spark for data streaming and analysis, persisted data in Cassandra

**Facebook,** *iOS Development Intern* June 2015-August 2015

- Developed real-time multi-player iOS word game in Objective-C as part of Facebook University program
- Used Parse for backend, Firebase for real-time notification, and pop for animation

**NASA Goddard Space Flight Center,** *Software Development Intern* January 2015

- Implemented new GUI features in Core Flight Software (cFS) using Python and QT toolkit
- Wrote HTML parsers to automate the addition of 75 new ground commands to cFS

## Activities

Undergraduate Teaching Assistant, Gordon Eng. Leadership Program, Techx/HackMIT, Society of Women Eng.