A M MUSA SHAKIB KHAN

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EDUCATION

B.Sc. Electrical & Electronic Engineering (CGPA 3.93/4.0) **(January 2017 – August 2019)**
BRAC University, Dhaka, Bangladesh
Awards: Vice Chancellor's Certificate & List; graduated with Highest Distinction

Bachelor of Engineering (Electrical) (CGPA: 3.36/4.0) **(September 2013 – May 2016, credit transferred)**
McGill University, Montreal, QC, Canada
Awards: James McGill Scholarship **(Fall 2013)**

Edexcel GCE A'Levels from Mastermind School: 1A*, 2A **(June 2012 – June 2013)**
Edexcel IGCSE O'Levels from South Breeze School: 7A*, 1A **(June 2011)**
Awards: Country Highest score in O'Level Physics

SKILLS

- **Spoken Languages:** Fluent in English & Bengali. **TOEFL, November 2019: 108/120 (R:22, L:30, S:29, W:27)**
- **Communication Skills:** Proficient at delivering presentations as demonstrated by performance in relevant courses.
- **Programming**: C, Java, Python, MIPS Assembly Language, VHDL Hardware Description & Matlab.
- **Electronic hardware skills:** AVR micro-controllers, Arduino, Raspberry Pi, analog (DC, AC) & digital circuits, transistors, op-amps, motors, generators, transformers, etc.
- **Simulation & CAD Tools:** LogicWorks, Spim, PSpice, ORCAD, ModelSim; PCB design with Proteus & DipTrace; VLSI circuit design with Microwind.
- **Microsoft Office Suite:** Word, Excel, PowerPoint.
- **Operating Systems:** Windows OS, Mac OS and Linux.

SIGNIFICANT PROJECTS (RESEARCH & DESIGN)

- **Thesis: Wireless Communication in IoT, BRAC University** **(Summer 2018 – Summer 2019)**
  - Topic: Application of Non-Orthogonal Multiple Access for Machine Type Communication in THz Band.
  - Enhancing energy efficiency, spectral efficiency and data rate of wirelessly communicating machine type IoT devices.
  - Paper submitted for publication at: '5G & Beyond Mobile Wireless Comm. Enabling Intelligent Mobility', IEEE Access.

- **Design Project for course: Microprocessors, BRAC University** **(Fall 2018)**
  - Incandescent lamp life extension using technique of zero-voltage switching technique on AC power supply.
  - Using op-amp comparator circuit to detect zero-crossing of AC power and AVR ATMega32 micro-controller to activate/ deactivate lamp at these points to protect lamp.
  - Stood 3rd in project showcasing competition.

- **Design Project for course: Digital System & Design, McGill University** **(Winter 2016)**
  - Implemented a digital version of an Enigma Machine using an FPGA development board.
  - Used VHDL for hardware description of the Enigma Machine on the Altera Quartus II FPGA design software.
  - Implemented various combinational and sequential digital circuits as building blocks of the Enigma Machine.
  - Simulated and tested the VHDL description using the ModelSim simulation program.

- **Design Project for course: Design Principles & Methods, McGill University** **(Winter 2015)**
  - Co-programmed, in a group of five, a software system on MindStorms NXT kit to design and operate an autonomous robot using Java in the Lejos programming environment and the Eclipse IDE.
  - Led documentation of the project from inception to completion and supervised various tests performed on the robot.
  - Co-designed a communication interface for connecting multiple NXT components via Bluetooth and RS-232.
  - Contributed to creating an API for the robots software system.

WORK EXPERIENCE

- **Student Tutor & Teacher's Assistant: BRAC University** **(Summer & Fall 2018)**
  - Paid position for 15 hours/week of tutoring students and invigilating exams of undergraduate course 'Semiconductor Devices & Materials' by Associate Professor Mohammed Belal Hossain Bhuian.