Abrar Fahim

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EDUCATION

M.S. in Electrical Engineering, ***New York University*** (*CGPA: 3.50/4.00)* Sep '21-May'23
Relevant Courses: Real-Time Embedded Systems, Computing Systems Architecture, Introduction to VLSI System Design, Digital Signal Processing, Internet Architecture and Protocol, Fundamentals of Analog Integrated Circuits Design, VLSI System & Architecture Design

B.Sc. in Electrical and Electronic Engineering, ***North South University*** *(CGPA: 3.91/4.00)* Jan '16 – Dec '19
Relevant Courses: Electrical Circuits, Analog & Digital Circuits, Data Communication & Computer Networks, Mobile & Wireless Communications, Fiber-Optic Communication Systems

PROFESSIONAL EXPERIENCE

Lab Officer (Part-Time) Feb '20 – Jun '21
Dept. Electrical & Computer Engineering, North South University

- Conducted lab classes and experiments for CSE115L: Programming Language I Lab, EEE111L: Analog Electronics Lab, and EEE342L: Control Engineering Lab.
- Developed course materials and curricula for the lab classes.
- Formulated questions for lab exams and experiments.
- Assessed exam copies and assisted the course instructor in grading.

Undergraduate Teaching Assistant Jan '19 – May '19
Dept. Electrical & Computer Engineering, North South University

- Tutored undergraduate students of EEE141: Electrical Circuits I outside class time.
- Provided support to the course instructor with grading copies and developing the syllabus.

TECHNICAL SKILLS

- **Programming Languages:** *C, Python, MATLAB, Assembly Language (RISC-V)*
- **Hardware Description Language for RTL:** *VHDL, SystemVerilog, Verilog*
- **Circuit and Logic Simulation Software:** *Cadence Virtuoso, Ni Multisim, PSpice, LTspice, Simulink, ModelSim, VCS*
- **Logic Synthesis Tools:** *Genus*
- **MCU/Development Board:** *Arduino, RaspberryPI, STM32F429 Discovery Kit, HiFive1 Rev B*
- **Test Equipment:** *DMM, Oscilloscope, Signal Generator, Light Runner (Fiber Optic Test Bench)*
- **Presentation & Documentation Tools**: *M.S. Word, Excel, PowerPoint, Keynote, Numbers*

PUBLICATIONS

- **A Fahim**, M. A. Chowdhury, M. Hasan, and M. F. Alam, " Smart parking systems: a comprehensive review based on various aspects," Heliyon, Vol 7, Issue 5, 2021, e07050, ISSN 2405-8440, https://doi.org/10.1016/j.heliyon.2021.e07050.
- **A Fahim**, M. A. Chowdhury, M. F. Alam, F. Elahi, E. C. Shourov and M. Hasan, "Smart Transformer Theft Protection and Maintenance Monitoring System," doi: 10.1109/ICREST51555.2021.9331157.

PROJECT & RESEARCH

- Designing and Synthesizing Memory Built-in Self Test (MBIST) for Testing a 256x4 Bit SRAM.
- Designing and Simulating Folded Cascode Operational Transconductance Amplifier (OTA)
- A Noble Approach to Detect Sudden Infant Death Syndrome (SIDS) and Monitor Environmental Parameters.
- KeySynth: A keyboard synthesizer with audio wave visualization and parameter changing tool.
- Embedded Challenge: Designed a system based on STM32F429 Discovery Board to detect Apnea by utilizing a long flex sensor.
- Senior Design Project: EnvironMentric: A Standalone Pipeline to Collect, Process, Archive, Analyze & Visualize Atmospheric Pollutants.
- Junior Design Project: Sun Light Tracking Solar Panel with Real-Time Power Logger
- Directed Research: Position Estimation of a UAV Using 9 DOF IMU & GPS

ACHIEVEMENTS

- Merit-Based Scholarship, Tandon School of Engineering (2021)
- Champion, NSU ACM Innovation Challenge Season Nine (2019)