

Abrar Fahim

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EDUCATION

M.S. in Electrical Engineering, New York University (CGPA: 3.583/4.00) 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

Product Engineer

Aug '23 –

Z-Band Technologies, LLC

- Creating a product development pipeline for customer-specific or new-generation video distribution products. The pipeline includes brainstorming new ideas for prototyping and, consequently, marketable products.
- Providing commissioning and customer services to Z-Band products.

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 & experiments.

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
- **PCB Design Tools:** Cadence Allegro PCB Design Suit
- **MCU/Development Board:** Arduino, RaspberryPI, STM32 Microcontrollers, HiFive1 Rev B, PIC Microcontrollers
- **Test Equipment:** DMM, Oscilloscope, Signal Generator, Spectrum Analyzer, Vector Network Analyzer
- **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.
- S. Chowdhury, A. Chakraborty, U. b. Joy, **A. Fahim**, M. A. Chowdhury and M. Hasan, "A 60 GHz and 2.08 mW Active Quasi-Circulator in 22 nm FDSOI Technology," 2023 IEEE 66th International Midwest Symposium on Circuits and Systems (MWSCAS), Tempe, AZ, USA, 2023, pp. 684-688, doi: 10.1109/MWSCAS57524.2023.10405923.

PROJECT & RESEARCH

- Design and development of I.R. compatibility for existing UNV Balun system
- 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.
- Senior Design Project: EnvironMentric: A Standalone Pipeline to Collect, Process, Archive, Analyze & Visualize Atmospheric Pollutants.
- 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)