Sumit Mondal

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OBJECTIVE

ECE Master's student with a focus in Hardware Design, Digital Signal Processing, and Wireless Communications seeking full-time employment starting Summer/Fall 2020.

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, Georgia **GPA: 4.00** *Jan 2019 - May 2020*

- Candidate for Master of Science in Electric and Computer Engineering

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, Georgia **GPA: 3.69** *Aug 2015 - Dec 2018*

- Bachelor of Science in Electric Engineering, *Summa cum laude*
- Honors: Warren Batts & Austin Brown Innovation Award, Zell Miller Scholarship

SKILLS

Programming: C/C++, MATLAB, VHDL, Python, Assembly, github.com/SumitMondal
Hardware: FPGAs(Intel/Xilinx/MicroSemi), ARM mbed Microcontroller, Oscilloscope, Network Analyzer
Software: Xilinx Vivado**,** NI LabView, Altera Quartus II, Libero, Synopsys, LTSpice, MathCad, AutoCad, Git, SVN

EXPERIENCE

Harris Corporation | Melbourne, Florida *May 2018-Aug 2018*
Digital Design and Digital Signal Processing Intern

- Designed a SPI Master Interface in VHDL for interfacing with 16 high speed Digital-to-Analog Converters (DAC) and 4 Analog-to-Digital Converters (ADC) for a Small Satellite Mission
- Synthesized, simulated, and debugged HDL using Libero, Synopsys, and Simvision respectively
- Implemented Digital Signal Processing (DSP) algorithms (such as correlations, FFTs, and RRC filters) in MATLAB to assist in system engineering challenges
- Modeled and tested the the Doppler effect on the signal integrity of wide-band communication signals via a customized MATLAB GUI

Stevens and Wilkinson | Atlanta, Georgia *May 2016-Aug 2016*
Electrical Engineering Intern

- Created Revit and AutoCAD Models, Power Layouts, and Lighting Calculations to assist in the construction and design of residential, commercial, and educational buildings throughout Atlanta

PROJECTS

Vertically Integrated Projects (VIP) Research Program – *Aug 2016-Present*
Graduate Research Assistant for Intelligent Digital Communications *Jan 2019-Present*

- Lead a diverse team of undergraduates to conduct research in the area of Software-Defined-Radio (SDR) and Wireless Communications
- Manage and maintain an SDR sensor network in Bobby Dodd Stadium designed to record Game-Day Wireless Spectrum data
- Developed algorithms for timing synchronization and interpretation of recorded data to determine the location of an arbitrary emitter in Bobby Dodd Stadium

ECE 6276 DSP Hardware Project Nov 2018

- *Edge Detection:* Designed a Sobel Edge Detection Algorithm in VHDL for a static image (320x240) with a VGA output on a Basys 3 FPGA Board
- Implemented a 2D Convolutional filter on an input image loaded and stored in FPGA block RAM

ECE 4122 C++ Design Projects *March 2018*

- *FFT Implementation:* Designed a parallel processing (Multi-threading) algorithm to perform the Discrete Fourier Transform at a faster rate, or the Fast Fourier Transform
- *2D Portal:* Created a 2d side-scrolling videogame complete with object classes, animation, and functional hit-detection

ACTIVITIES, AWARDS, and LEADERSHIP

Undergraduate Teaching Assistant *Jan 2017-Dec 2018*

- Assist students in Digital Design Laboratory understand concepts such as FPGA prototyping, VHDL Simulations, Oscilloscopes, Logic analyzers, and State Machine design