

**EDUCATION:**

**Master of Science, Computer Engineering** Anticipated May 2018

George Mason University, Fairfax, VA

Course Work: VLSI Design for ASICs, Real Time Embedded Systems, Microprocessors, Advanced Microprocessors, TCP/IP, Small Spacecraft Design GPA = 3.4

**Bachelor of Technology, Electronics & Communication Engineering** 2012 – 2016

JNTUH, India.

Course Work: VLSI design, Microprocessors & Microcontrollers, Digital Design, IC designs & Applications, Digital & Analog Circuits, Electronic Devices & Circuits, Electromagnetic Theory & Transmission Lines, Control Systems, Computer Organization, Electronic Measurements & Instrumentation C & Data structures, Oops. GPA=3.5

**TECHNICAL SKILLS:**

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- **Languages/Scripts:** Python, TCL, C, Embedded C, C++, VHDL, Verilog and good RTL experience, HTML, E-CAD.
- **Softwares:** Synopsys, Xilinx ISE, Xilinx EDK, SDK, Systems Tools Kit (STK), CCS, MATLAB, Pspice, LabView, VMware.
- **Hardware:** FPGA board (Virtex-5), Microcontrollers (MSP430, ATmega8,16,ARM), Oscilloscopes, Op-Amps, JTAG, RS232.
- **OS:** Linux and Windows. • **MS-OFFICE:** MS-Word, PowerPoint, Excel.
- **Networking Protocols and Standards:** Basics of TCP, IP, UDP, OSPF, RIP, BGP, DHCP, PPP.

**WORK EXPERIENCE:**

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**George Mason University – Graduate Research Assistant** June 2017-Till now

Working on Motion sensors which can predict and prevent ACL tear. Developed Human limbs simulation in MATLAB for analysis.

**Technologies Used:** Arduino, Microcontroller, Flex sensors, MATLAB.

**George Mason University – Research Assistant** Oct 2016 – May 2017

Developed & programmed ‘Music & Vigilance’ task which is User Interface (UI) task where user responds to the flashing numbers along with music played and other is ATC (Air Traffic Control) task for Human Factors & Applied Cognition department. **Technologies Used:** MATLAB, Psychtoolbox. Also, worked on Data collection & analysis on Demonetization topic.

**Defence Electronics and research Laboratory (DLRL), Hyderabad – Project Trainee.** Jan 2016 - April 2016

**“Implementation of MGTS & Ethernet for High Speed Serial Data Transmission using Xilinx EDK on Virtex-5 FPGA”**

- Configured FPGA and wrote VHDL code to enable Aurora and Ethernet modules.
- Integrated Ethernet and Custom aurora IP core to the processor and registers enabled in the custom Aurora IP core are accessed by Ethernet whose assigned data is sent on Ethernet cable.
- Established 1Gbps speed for Ethernet 3.25Gbps for aurora and 1Gbps for integrated module.
- Technologies Used: Xilinx ISE, Xilinx EDK, SDK, ChipscopePro, Virtex-5 FPGA, HyperTerminal.

**CERTIFICATIONS:**

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"An Introduction to Interactive Programming in Python (Part 1) by Rice University on Coursera. Certificate earned on April 17, 2017". License VE9BMVGNQ7AZ. <https://www.coursera.org/account/accomplishments/certificate/VE9BMVGNQ7AZ>

**PUBLICATIONS:**

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Published a paper entitled **“Implementation of Ethernet, Aurora and their Integrated module for High Speed Serial Data Transmission using Xilinx EDK on Virtex-5 FPGA”** in Volume 5 Issue 7, July 2016 in **International Journal of Science and Research (IJSR)** <https://www.ijsr.net/archive/v5i7/ART20164.pdf> (2016).

**PROJECTS:**

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- Self-Project on **“Pong”** game using Python. Wrote Python code to execute the user interface game ‘Pong’ with two players. **Technologies used:** Python [http://www.codeskulptor.org/#user43\\_QNGHrKCXpE\\_14.py](http://www.codeskulptor.org/#user43_QNGHrKCXpE_14.py) April 2017
- Evaluated Systems Tool Kit (STK) software for building a ground station software system for CubeSat (small satellites). April 2017

• ASIC Design of **“Booth Encoding Multiplier & Array Multiplier”** Nov 2016 - Dec 2016  
Designed & synthesized 8, 16, 32-bit Booth & Array multipliers and evaluated power efficiency. Using IC Compiler created back-end design. Using Design compiler & Prime Time obtained area, power, timing & critical path. **Technologies used:** Synopsys, tcl.

• **“Hand Gesture Controlled Metal Detector Robot”** Oct 2016 - Dec 2016  
Developed a hand gesture based robot which detects metals to prevent explosions. Integrated Accelerometer and RF Transmitter on MSP430 and wrote code for transmission of data. **Technologies used:** MSP430, CCS <https://youtu.be/NSAd7XC2uj0>

• **“RFID Based Toll Tax Collection System”** Dec 2015 – Jan 2016  
Implemented Toll system on a circuit with Microcontroller, RFID sensor & tag, geared DC motor, 16x2 LCD and wrote Embedded C program for collection of toll tax on highways efficiently. **Technologies used:** ATmega16, RFID, CVAVR, Proteus.

• **“Digital Information Storage Diary”** June 2015 – July 2015  
**Infinity Technologies, Hyderabad**  
Assembled a digital diary on a circuit using microcontroller, 16x2 LCD and switches and programmed it with Embedded C for storing & retrieving information with security.

• **Industrial Training on “Smart Solar Tracker using Microcontroller”** May 2015 – June 2016  
**Defence Electronics and Research Laboratory (DLRL), Hyderabad.**  
Explored the microcontrollers and its peripherals and then, developed a prototype model of smart solar tracker and programmed microcontroller with stepper motors which rotates as per the sun’s direction. **Technologies used:** ATmega8 Development Board, CodeVisionAVR, Proteus, Embedded C. <https://youtu.be/rtV0JCOTK6s>

• **BI-PED ROBOT** Dec 2013 – Jan 2014  
Assembled the BI-PED robot using four servo motors & ATmega Microcontroller & programmed it to walk in a straight line.  
<https://youtu.be/uRyIsw6CZiw>

#### **ACTIVITIES:**

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• President, **IETE Student forum**, Mahaveer Institute of Science and Technology, JNTUH.