# Muhammad **Usama Anjum**

ELECTRICAL ENGINEER · SPECIALIZATION IN COMPUTER SCIENCE

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## Education

**University of Engineering and Technology, Lahore**

B.SC IN ELECTRICAL ENGINEERING (0.123/4.0) *2014 - 2018*

**Punjab College for Boys, Sheikhupura**

F.SC PRE-ENGINEERING (0123/1100) *2012 - 2014*

**Govt. Project High School, Farooqabad**

MATRICULATION (0123/1050) *2010 - 2012*

## Experience

**Mentor - A Siemens Business, Lahore**

SOFTWARE DEVELOPMENT ENGINEER *June 2017 - Present*

- Worked on Nucleus RTOS Kernel

**University of Engineering and Technology, Lahore**

TEACHING ASSISTANT *Jan. 2016 - May 2017*

- Designed study material, facilitated workshops, conducted lab sessions, marked assignments and quizzes (Microprocessor Systems, Digital Logic Design, Programming Fundamentals and Introduction to Programming)

## Projects

**IP Core Design of Encoder & Soft-Output Decoder for Polar Codes (Verilog, C)** *Group*

FINAL YEAR PROJECT *Aug 2017 - May 2018*

- Designed low hardware complexity and high throughput cores of 32,768-bit Encoder with the throughput of 20 MB/s and 32-bit Decoder with the throughput of 4 MB/s
- Simulated cores on ModelSim, implemented on Xilinx FPGA - Spartan-3 and verified results on 50,000 random test cases

**System Level Applications in Ubuntu and Kernel Programming in XV6 (C)** *Individual and Group*

OPERATING SYSTEMS *Jan 2018 - May 2018*

- Implemented Unix Shell, Malloc Library, Scalable Web Crawler in Ubuntu
- Added system calls, implemented round-robin & MLFQ scheduler, changed the position of stack & heap in the kernel of XV6 OS

**GSM based Tic-Tac-Toe Game (C)** *Group*

MICROPROCESSOR SYSTEMS *Dec 2016*

- Made Tic-Tac-Toe game by interfacing GSM module SIM900A with ARM Cortex M4 micro-controller
- Did programming on register level, debugged in real time and displayed the game on LEDs by time-multiplexing

**MIPS 32-bit Processor (Verilog)** *Individual*

COMPUTER ARCHITECTURE AND DIGITAL SYSTEM DESIGN *Dec 2016 - May 2017*

- Made pipelined, multi-cycle and single-cycle MIPS processors using Verilog and simulated on ModelSim

## Technical Skills

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| **Academic Courses** | Operating Systems, Database, Algorithms, Microprocessor Systems (Assembly Language), Digital System Design, Computer Architecture, Computer Networks and Machine Learning |
| **Programming Languages** | C(Embedded C), Assembly, JAVA and Verilog |
| **IDEs** | Visual Studio, Keil, Eclipse and Xilinx ISE |

## Extra-curricular

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|---|---|
| **Student Bodies** | Skpians' Frame (HR Manager), UET XNEWS (Webmaster), Stem5, EE Web Development Team, IET UET Chapter and IEEE UET Lahore |
| **Hobbies** | Social welfare, teaching, gaming, watching movies and seasons |

## Honors & Awards

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|---|---|---|
| May 2017 | **1st place**, STEM Code Camp as Mega Project, Amal Academy Fellowship | *Lahore* |
| 2014-2015 | **Dean's Honor Roll**, Department of Electrical Engineering | *Lahore* |
| 2014 | **5th Place**, F.Sc, In District Sheikhupura, Bise Lahore Examinations | *Sheikhupura* |