

Ali Roman

Village Chooria Syedan, Taxila, Rawalpindi Pakistan

Tel: +923155914763

Email: aliroman@ciitwah.edu.pk

SKYPE ID: ali.roman3

EDUCATION	Aug 2010- April 2012	Master of Science in Electronic Design (System on Chip) . LTH Sweden (CGPA: 3.39/5) The master's degree in Sweden has duration of two years and covers 120 credits. Master's thesis (30 Credits) focused on Error controlled codes used in communication. University website : http://www.eit.lth.se/
	Sep 2004- June 2008	Bachelor of Science (Electrical Engineering) . COMSATS Institute of Information Technology (CIIT), Wah Cantt, Pakistan (CGPA: 3.55/4) Secured 2 nd position among 150 Engineering students at institute
	Aug 2003- Dec 2003	Three years DAE (Diploma of Associate Engineering) Computer Hardware : Punjab Board of Technical Education (PBTE) Lahore (Score: 2449/3200) ranked 3 rd in Punjab province.
	July 2000	Secondary School Certificate (Science):1st Division Rawalpindi board of intermediate and secondary education
MAJOR PROJECTS	MASTER'S THESIS: BEAST on FPGA (Design and Implementation) [Good standing]	
	Focused on the hardware implementation of BEAST (Bidirectional Efficient Algorithm for Searching code Trees) for decoding of block codes used in channel coding. The BEAST algorithm was developed in LTH by information theory department. The performance simulations were performed in Matlab and Modelsim, whereas; the hardware implementation is described using VHDL language. The hardware is synthesized for an ASIC (Application Specific Integrated Circuits) platform using 130 nm CMOS technology. BER (Bit Error Rate) simulation is performed to verify the performance of the designed system for different SNR (Signal to Noise Ratio) values.	
	IC Project: MAP Channel Decoder (Design and Implementation) [Grade Point Average 4]	
	The Project covers all the aspects from conceptual design to the physical implementation of Max-MAP channel decoder for convolutional codes. The complete design is implemented using different synthesis constraints (i.e. Area, speed), using 130nm standard cell library and is verified. After verification, the design is physically placed and routed using SOC ENCOUNTER tool.	
	Analog IC Design: Two Stage Operational amplifier implementation [Grade Point Average 3]	
The main task was to design and simulate a two-stage operational amplifier of given configuration and after functional verification, the task was to perform layout and post layout simulation of the design. The work was carried out by using Cadence (DRC, LVS and parasitic extractions were performed).		
Engineering Degree Project: Quad Rotor Flying Vehicle [Grade Point Average 4]		
The project was concerned with study and implementation of the Quad Rotor Flying Vehicle. The goal of project was to design and construct a quad-rotor vehicle capable of indoor and outdoor flight and hover.		
Supervised undergraduate Degree Projects		
The degree projects are offered to final year engineering students at CIIT Wah (Currently known as CUI wah) and have 32 weeks maximum duration. The completed projects under my supervision are:		
<ol style="list-style-type: none"> DOCTRACK: A mobile application design and implementation for patient assistance in case of emergency. [in progress] Assistant robot with speech recognition and image processing capabilities, funded from Ignite-National Technology Fund 2018-19 [0.1 million PKR approx.] Design and implementation of Viterbi decoder for decoding of (8, 4, 4) Extended Hamming Block codes on FPGA. 		

	<ol style="list-style-type: none"> 4. Design and Implementation of OFDM on FPGA. 5. Implementation of pipelined multicycle datapath for MIPS32 architecture. 6. Autopilot based boat control. 7. GPU accelerated face recognition algorithm through deep learning. 8. Design and implementation of partially reconfigured hardware on FPGA.
<p style="text-align: center;">WORK EXPERIENCE</p>	<p>COMSATS University Islamabad, Wah (Nov 2012 – to date) As a Lecturer.</p> <ol style="list-style-type: none"> 1. To deliver the lectures and conduct the lab sessions for core electrical engineering subjects like Microprocessor Systems and interfacing, Computer Architecture, Digital System Design, Digital logic Design, Electric circuit Analysis and Electronics. 2. To guide and counsel students for the academic and co-curricular activities. 3. Also working as a class counselor in Electrical Engineering Department. <p>COMSATS Institute Of IT Wah (Oct 2009 – Nov 2012) As a Lab Engineer.</p> <ol style="list-style-type: none"> 1. To conduct the lab sessions for core electrical engineering subjects like Microprocessor Systems and interfacing, Computer Architecture, Digital System Design and Digital logic Design. 2. To Guide and evaluate students for their Lab work and projects. <p>COMTEC Wah (July 2008 – Sept 2009) As a Research Officer.</p> <ol style="list-style-type: none"> 1. Worked and researched on various company projects. 2. Managed the work activities at aerospace department for development of Telemetry/Telecommand systems and auto pilot-based systems.
<p style="text-align: center;">RESEARCH</p>	<ul style="list-style-type: none"> • An Optimization Framework for Codes Classification and Performance Evaluation of RISC Microprocessors Syed Rameez Naqvi; Ali Roman; Talha Akram; Majed M. Alhaisoni; Muhammad Naeem; Sajjad Ali Haider; Omer Chughtai; Muhammad Awais, Symmetry 2019 , Volume 11, Issue 7, 938 [Impact factor:2.143]
<p style="text-align: center;">TECHNICAL SKILLS</p>	<ul style="list-style-type: none"> ▪ Design Tools: Cadence (for analog IC design and A/D converters), Design Vision, and SOC Encounter. ▪ Programming Skills: VHDL, Verilog, Verilog A, Embedded C, C/C++, CCS C, Java, Assembly, GW Basic, Shell Scripting, HTML. ▪ Simulation Tools: MATLAB®, Modelsim, Xilinx ISE tools, Proteus, Orcad, AutoCAD. Electronics Work Bench, MP lab, Kei, Lab View ▪ OS: MS Windows, MS-DOS, UNIX (fedora). ▪ Other Tools: Latex, Microsoft Office Tools, Open Office
<p style="text-align: center;">ACHIEVEMENTS</p>	<ul style="list-style-type: none"> ▪ Research Assistantship (RA) position at Western Michigan university USA, Fall 2020 and Spring 2021 session ▪ Kenneth. Knight graduate Scholarship winner for 2020-2021 and 2021-2022 session at Western Michigan University USA ▪ Achieved Campus silver medal in Engineering. ▪ Registered member of PEC (Pakistan Engineering Council) ▪ Served as a key member of Quality enhancement committee (QEC) at CIIT Wah. ▪ Serving as a secretary of final year engineering project review committee. ▪ Member of departmental events committee. ▪ International mentor at LTH Sweden. ▪ Served as the class representative for Computer Engineering (Fall 2004 batch).
<p style="text-align: center;">PERSONAL INFORMATION</p>	<p>Date of Birth: 02 OCT 1985</p> <p>Languages: English(very good command), Urdu(Native Speaker), Punjabi(mother tongue) Swedish(basic knowledge)</p> <p>Nationality: Pakistani</p> <p>Marital Status : Married</p>
<p style="text-align: center;">REFERENCES</p>	<p>Dr. Syed Rameez Naqvi (Assistant Professor at CUI Wah) Ph.D. Vienna University of technology, Vienna, Austria Email: rameeznaqvi@ciitwah.edu.pk</p> <p>Dr. Sajjad Ali Haider (Assistant Professor at CUI Wah) Ph.D Chongqing University China Email: sajjadali@ciitwah.edu.pk</p>