Muhammad Umar Farooq

Location	Near Karachi Airport	**Mobile Phone**	+92 333 3004198
Date of Birth	22nd June 1993	**Email**	mufarooqq@gmail.com
Nationality	Pakistani	**Website**	mufarooqq.github.io

Education

2016-date **PAF-Karachi Institute of Economics and Technology, Pakistan** *(In Progress)*
MS, Electronics Engineering

2012-2016 **PAF-Karachi Institute of Economics and Technology, Pakistan**
BE, Electronics Engineering | **CGPA** - 3.35/4.00

Elective Courses:
Data Communication | Industrial Control Electronics | Power Electronics and Drives
FPGA Based Systems | Embedded Systems Design | Navigation Guidance and Control

Final Year Project:
Automatic Tomato Sorting through Image Processing | **Grade:** *A (88/100)*

Work Experience

Sep 2016 - date **Lambda Theta**
Design Engineer

-Hardware designing and Programming of Vision-based solutions for a variety of security, quality control and process control systems.
-Using Computer-aided design tools to generate schematic diagrams and PCB design layouts.
-Development of technical specifications and documentations of projects.

Projects: (Brief description | Hardware/Software/Languages used)
1-*Temperature Logger* (Monitors the temperature of temperature-sensitive pharmaceutical products in a fixed storage area and uploads the logs to an offline/online server. | Arduino, C/C++, Python, PHP, MySQL, Javascript, jQuery)
2-*Vascular Pattern Recognition* (Uses Near-infrared light to find the veins pattern of a person for biometric recognition purposes. | RaspberryPI, C/C++)
3-*Video Motion Detector* (Saves the time by extracting motion frames in long videos in few seconds. | RaspberryPI, Python)
4-*Volumetrics* (Finds the Volumetric weight of a box through Image processing. | Arduino, RaspberryPI, C/C++, Python)
5-*Person Detector* (Triggers an alarm if a human is detected in a real-time video. | RaspberryPI, Python, C/C++)

Dec 2015 -   **Pakistan Aeronautical Complex (PAC)**
Jan 2016   *Internee*

-Received basic knowledge about navigational instruments being used in fighter planes.
-Got introduced to different elements of the aircraft production lifecycle - evaluating design and performing tests.
-Had a one day field experience with the manufacture of sub-assemblies for the JF-17 and its composite structure repair and maintenance.

Aug 2015 -   **Precision Engineering Complex (PEC) - PIA**
Sep 2015   *Internee*

-Received basic knowledge about different defense related equipment, the test sets of the aircraft, PCB manufacturing process and different CNC machines being used in Machine Shop and Optics department for mass productions.
-Had a field experience with the manufacture of parts for Aircrafts and Tanks at Investment Casting Plant (ICP) and Machine Shop departments for two days.

Jun 2014 -   **Pakistan Telecommunication Company Limited (PTCL)**
Jul 2014   *Internee*

-Received training at different telephone exchanges of PTCL and got acquainted with the soft switches and different kinds of switching networks like Packet switched and Circuit switched networks.
-Got introduced to the basic elements of the whole wireless system like BSC, MSC, BTS etc. and different multiplexing schemes like TDM, FDM and others.

Skills and Expertise

- *Programming Languages* - C/C++ , Python, MATLAB, Octave, VHDL, Ladder logic, PHP, Javascript, HTML, CSS
- *Libraries* - OpenCV, jQuery
- *Hardwares* - Microcontrollers, Arduino, RaspberryPI, FPGA Board Spartan 3E, Delta DVP-SS2 and DVP-SS Series PLC, IDEC Microsmart Pentra FC5A PLC
- *Operating Systems* - Linux, Windows
- *Miscellaneous* - LaTeX, Visual Studio, Xilinx, Siemens LOGO!Soft Comfort, WPLSoft, WindLDR, ModelSim, ISIS Proteus, LabVIEW, Multisim, PIC C, OrCAD, SolidWorks, SketchUp, Packet Tracer, Web Scrapping

- *Language Skills* - English (Fluent), Urdu (Native)

Publications

1. **M.U. Farooq**, M. Waseem, M.T. Qadri and M. Waqar, *"Understanding 5G Wireless Cellular Network: Challenges, Emerging Research Directions and Enabling Technologies"*, Wireless Personal Communications, 2016. doi: 10.1007/s11277-016-3891-7
   Presented this paper at the *Global Conference on Wireless and Optical Communications (GC-WOC'16)*, which was held during 5-7th September 2016 at Malaga (Spain).

2. **M.U. Farooq**, M. Waseem, A. Khairi and S. Mazhar, *"A Critical Analysis on the Security Concerns of Internet of Things (IoT)"*, International Journal of Computer Applications, vol. 111, no. 7, pp. 1-6, 2015. doi: 10.5120/19547-1280

3. **M.U. Farooq**, M. Waseem, S. Mazhar, A. Khairi and T. Kamal, *"A Review on Internet of Things (IoT)"*, International Journal of Computer Applications, vol. 113, no. 1, pp. 1-7, 2015. doi: 10.5120/19787-1571

4. A.R. Riaz, **M.U. Farooq** and A.M. Syed, *"Tablet Inspection and Sorting Machine"*, International Journal of Computer Applications, vol. 126, no. 9, pp. 1-7, 2015. doi: 10.5120/ijca2015906191

Honors and Awards

2016   Received a research reward of Rs. 50000 from PAF-KIET for an ISI-Indexed publication.

2016   Received a scholarship for two semesters of Master's degree at PAF-KIET.

2016   Peer Reviewed a Research paper for Telecommunication Systems, Springer.

2016   Received a merit scholarship for Master's degree at PAF-KIET.

2016   Named in College's Honor List for good academic record at PAF-KIET.

2015   Selection in the list of top 40 students for internship at PAC-Kamra.

2015   Course Grader for two different courses during bachelor's degree program

2015   Participation in SUPARCO Space Week "University Project Competition".

2014   First Runner-up award in university level competition held at PAF-KIET.

2012   Named in Director's Honor List for good academic record at PAF-KIET.