

# DANISH ARIF

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IEEE Professional Membership # 90439837 PEC # Elect / 28871

## OBJECTIVE

Seeking a position to utilize my research skills and abilities in reputed institution that provides opportunities for professional and intellectual growth in terms of resourcefulness, innovation and flexibility

## WORK EXPERIENCE

- **Jiangxi University of Science & Technology** as Foreign Expert, Department of Electrical Engineering
  - Research area: Artificial Intelligence, Parallel Computing
  - Teaching area: Embedded Systems, Digital Control Systems
- **University of the Punjab** as Lecturer, Department of Electrical Engineering
  - Teaching area: Instrumentation, Computer Programming & Embedded Systems, Management
  - Research area: Robotics, Artificial Intelligence, Signal Processing, Biomedical Engineering
  - Member Punjab University Exam Monitoring Team
  - Member Board of Studies
  - Focal Person for PEC Accreditation
  - Member Technical evaluation committee
  - Member Curriculum revision committee
  - Focal Person Security planning and deployment
  - Focal Person ORIC for Department of Electrical Engineering
  - Master Trainer Microsoft Office Specialist
  - IEEE PU branch coordinator
- **Sui Northern Gas Pipelines Ltd.** as Engineer, Transmission Department, Lahore Section
  - Calibration & Metering with Electronic Flow Computers
  - SCADA & allied equipment maintenance
  - Security in-charge
- **MOBILINK** as Supervision Engineer, Network Operation Centre
  - Network Operations Control
  - Software Research and Development
- **EMTEL** as Executive Engineer
  - Sites equipment swapping
  - Equipment procurement
- **Ministry of Defence** as Assistant Manager, Electronics
  - Sensors integration
  - RADAR & GPS integration
  - TMS320C31-33 processors
  - RS232, 422, 1553 protocols for avionics
  - PCB designs
- **Micro Electronics International Pvt. Ltd.** as Project Engineer
  - Encryption Modules
  - Programming
- **WATEEN Telecom** as Intern
  - Optical Fiber Communication
- **ICC Pvt. Ltd.** as Intern
  - High Power Transmission lines and substations
- **Horizon Line** as Intern
  - Installation of telecom repeaters

## PHD RESEARCH TITLE

Person of Interest Recognition and Optical-based Tracking (POIROT) Intelligence Assistance System

## MASTERS RESEARCH PROJECT

Study of the effects of Conventional, Hybrid and Electric vehicle emissions in Lahore

## BACHELORS FINAL YEAR RESEARCH PROJECT

Development of All-weather, All-terrain, Automatic and GSM-controlled, GPS-aided Skirmish and Defense Vehicle using Microcontroller

## EDUCATION

Year	Institute	Degree	Grade
2016	Department of Electrical Engineering, Faculty of Engineering, University of Cape Town, SA	PhD Electrical Engineering	<b>Thesis under evaluation</b>
2011-13	Institute of Quality & Technology Management, University of the Punjab, Lahore	MS Total Quality Management	<b>3.60</b>
2005-09	College of Engineering and Emerging Technologies, University of the Punjab, Lahore	Electrical Engineering	<b>3.74</b>
2003-05	Government College University, Lahore	H.S.S.C	<b>75 %</b>
2001-03	Crescent Model Higher Secondary School, Lahore	S.S.C	<b>88%</b>

## AWARDS AND ACHIEVEMENTS

- IEEE Myron Zuker Award for Innovation 2018 (USA)
- IEEE Myron Zuker Award for Innovation 2019 (USA)

## RESEARCH COLLABORATIONS

- Dr. Simon Winberg (University of Cape Town, South Africa)
- Dr. Zhao Huatao (Jiangxi University of Science & Technology, China)
- Dr. Fayyaz Ahmad (SUPARCO, Pakistan)
- Mr. Aftab Gilani (Civil Aviation Authority, Pakistan)

## RESEARCH PROJECTS

- Telemedical Assistant (University of the Punjab)
- Unmanned Ground Vehicle (University of the Punjab)
- Brain Tumor Detection using Deep Learning and Parallel Computing (University of Central Punjab)
- Ariel target estimation from GUI of X-Band Radar using Machine Learning (University of the Punjab)
- Brain waves-controlled home appliances for paralysis patients (FAST)
- Workplace efficiency enhancement by activity monitoring using image processing (University of the Punjab)
- Development of Cost-Effective night vision system (University of the Punjab)
- Renal cancer and stones detection system using Deep Learning (University of the Punjab)
- Development of F-16 C/D auto-pilot and target engagement system using reinforcement learning (University of the Punjab)
- Rehabilitation of Depression through Neurofeedback Systems (University of the Punjab)
- American Sign Language to Speech conversion system using gesture recognition (University of the Punjab)
- Pico hydro power generation unit for domestic use in remote areas (University of the Punjab)
- Driver assist system using image processing and Deep Learning (University of the Punjab)
- AgroFarm: Development of Farmer Assistance System with Sensors and Predictive Models using Machine Learning (University of the Punjab)
- IOT based remote monitoring system for hydro power plants (University of the Punjab)

## PROFESSIONAL TECHNICAL PROJECTS / ASSIGNMENTS

- Intruder and Environment Sensing System (AESP)
- Building Security System Plan & Implementation (AESP)
- Home Automation System Design (AESP)
- JF-17 aircraft avionics system development (MOD)
- F-16C/D aircraft HUD design study (MOD)
- Range extension kit GPS integration for air to ground weapon (MOD)
- Aircraft LRUs PCB Design & Implementation (MOD)
- Aircraft Multi Functional Displays Integration (MOD)
- Aircraft LRUs Power Supply Design (MOD)
- Encryption modules development (MOD)
- Security planning and devices installation at forward military base (MOD)
- BTS to SDR swapping (EMTEL)
- Repeaters Installation in Rural Areas (EMTEL)
- Organization level Web portal for SOPs, Catalogues & Registers (Mobilink)
- Preventive Maintenance Management System (Mobilink)
- Design of backup system for telecom sites monitoring and report management software (Mobilink)
- Gas flow computers replacement and installation Lahore sector SMS (SNGPL)
- Calibrations of Electronic Flow Computers at IPPs (SNGPL)
- Design and Development of daughter card for gas chromatograph (SNGPL)
- Maintenance / support for Scandura calibrating equipment (SNGPL)
- HEC Building and Equipment Upgrade Project of Rs.200M (University of the Punjab)
- Smart performance management system using Artificial Intelligence (Mobilink)

## TECHNICAL SKILLS

LANGUAGES	HARDWARE	MANAGEMENT & DATABASE TOOLS
<ul style="list-style-type: none"> <li>➤ Visual Basic</li> <li>➤ Assembly</li> <li>➤ C/ C++</li> <li>➤ VHDL</li> <li>➤ Python</li> <li>➤ HTML</li> </ul>	<ul style="list-style-type: none"> <li>➤ PIC Microcontroller</li> <li>➤ 8051-52 Microcontroller</li> <li>➤ DSP processers</li> <li>➤ FPGAs</li> <li>➤ Raspberry Pi</li> <li>➤ Computer / Cell Phones</li> </ul>	<ul style="list-style-type: none"> <li>➤ SPSS</li> <li>➤ Minitab</li> <li>➤ Microsoft Excel (with VB)</li> <li>➤ Microsoft Access</li> <li>➤ Fox-pro</li> </ul>
NETWORKING & COMMUNICATION	MULTIMEDIA & COMPOSING TOOLS	ENGINEERING SOFTWARE
<ul style="list-style-type: none"> <li>➤ IP camera configuration</li> <li>➤ Network devices configuration</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dreamweaver</li> <li>➤ Flash/ Swish</li> <li>➤ Corel Draw/Photoshop</li> <li>➤ Microsoft Office</li> <li>➤ 3D Home Design</li> </ul>	<ul style="list-style-type: none"> <li>➤ Protel</li> <li>➤ Matlab</li> <li>➤ HFSS</li> <li>➤ Multisim / Proteus</li> <li>➤ Microsoft Visio</li> </ul>

## TRAININGS /COURSES / DIPLOMAS

- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| ➤ Lean Six Sigma (Yellow Belt)      | ➤ Quality Management (IQTM)           |
| ➤ Microsoft Office Specialist (HEC) | ➤ Security Management Systems (PKE)   |
| ➤ Electrical Safety (PEC)           | ➤ Safety & Management course (NESCOM) |
| ➤ Power System Protection (PEC)     | ➤ CC++ course (NESCOM)                |
| ➤ Gas Measurement (SNGTI)           | ➤ PCB Design (NESCOM)                 |
| ➤ WiMax (Mobilink)                  | ➤ GSM/BSS (ZTE-UET)                   |
| ➤ Six Sigma Implementation (EBA)    | ➤ 8051 Micro-Controller (PITAC)       |
|                                     | ➤ Outcome Based Education (PEC)       |

## STUDY PROJECTS

- Variable power supply
- Low power DC to AC Voltage converter
- Audio Stereo Amplifier
- Stepper motor control, Fire Sensor with Automatic temperature control
- Home Security System
- Speech processing (MATLAB)
- Laser speed measuring gun
- Arithmetic logical unit (using 8051)
- LCD and Keypad interfacing with 8051 with indigenous keypad
- Low, High and Band pass filter
- High Frequency Radar 10.95 GHz
- Wirelessly controlled home appliances
- Traffic Signal Control

## EXTRA CURRICULAR ACTIVITIES

- Sports : Cricket, Hockey, Soccer as House Captain
- Basketball, Volleyball as House Captain
- Debating (English & Urdu), Recitation, Dramatics
- Painting & Sketching
- Membership of Debating, Music and Dramatics Societies at G.C.U.
- Scouting (Quaid-e-Azam badge)
- Shotokan Karate

## PUBLICATIONS

- Arif, D., Ahmad, A., Bakar, M.A., Ihtisham, M.H. and Winberg, S., 2017, April. Cost Effective Solution for Minimization of Medical Errors and Acquisition of Vitals By Using Autonomous Nursing Robot. In Proceedings of the 2017 International Conference on Information System and Data Mining (pp. 134-138). ACM.
- Arif, D., Ajmal S., Hassan K., Younas S., Automated Clot and Tumor Detection in Brain Through MRI using Machine Learning (In-process)
- Arif, D., Sharaf. U. and Winberg,S. Person of Interest Person Tracking in closed system using Machine Learning (In-process)
- Arif, D., Ihtisham. H. and Winberg,S. Rehabilitation of Depression through Neuro-feedback System (In-process)
- Arif, D., Saeed. H. and Winberg,S. American Sign Language to English Speech Conversion System for Speech Impaired People using Deep Learning (In-process)

## REFERENCES

- **Dr. Simon Winberg**  
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- **Raja Mustansar Mahmood**  
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- **Hassan Ali**  
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