Muhammad Afzal

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Curriculum Vitae

Male|Single|15.04.1993|Muslim|Pakistani

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Current Researcher

Researcher at Hanyang University, Seoul, South Korea. Recently, working on composites structures manufacturing, material selection, designing & testing of manufactured composites.

Career Objective

To have a growth oriented and challenging career, where I can contribute my knowledge and skills to an area and enhance my experience through continuous learning and teamwork.

Summary

Recently working as a researcher on the composite structures material selection, designing, manufacturing and testing sections at Hanyang University, Seoul, South Korea Graduated as Industrial & Manufacturing Engineer.

Previously worked as Process Control Engineer at Medical Devices Pvt Ltd. Studied focused on TQM, OR, CIM, Production Operations Management, Maintenance Engineering & Management, Metrology & QA, Entrepreneurship, Production Tooling Design, Machining Processes, FEA, Instrumentation and Control, Mechanics of Materials, Machine Design & CAD, Manufacturing Processes, Industrial Materials, Mechanics of Machines, Work Study, Ergonomics, Engineering Mechanics & Thermal Sciences.

During internships I performed data collection, statistical graphical analysis and implemented basic Lean techniques like 5S, Bottleneck Analysis, Heijunka, JIT, OEE, Poka yoke, SMED, TPM & Gemba. Beside that dealt with Takt time, cycle time and Primavera P6 software to reduce existing wastes like Muda, Mura and Muri that resulted in sound recommendation of improved layouts of labs & industries, which ensued significant increase of production on daily basis and adopted by the department.

Good knowledge of Abacus, Auto CAD, Solid Works, Corel Draw, and Microsoft Office. In addition, well knowledge in IT, communication, Leadership and Teamwork skills.

Education

2019-2020	Southwest Jiaotong University, Chengdu, China	https://en.swjtu.edu.cn/
	Chinese Language	
2012–2016	University of Engineering & Technology, Lahore, Pakistan (UET Lahore)	https://www.uet.edu.pk/
	Bachelors of Science, Industrial & Manufacturing Engineering	
2009–2011	Board of Intermediate & Secondary Education, Gujranwala	www.bisegrw.com
	F.Sc. Pre Engineering	

Final Year and Semester Projects

Jan 2023-	Development of Large Wind Blade Recycling Technology Using Recycled Resins
Jun 2023	Purpose was to develop an improved resin, manufacturing a sample of wind blade and following the testing of fatigue life
Jan 2023-	Manufacturing different components of Carbon Composite Hydrogen tank on PCNC
Jun 2023	Designed boss & tail assembling components on CATIA & Abaqus then manufactured on PCNC (Personal Computer Numeric Control Machine).
Mar 2023- Jun 2023	Designed & Manufactured carbon composite and Steel Carbon composite hydrogen tank on Abaqus (Having WCM) and on winding machine
	First Designed then manufactured carbon composite, steel plus carbon composite hydrogen tanks and other samples of composite for different industries like POSCO, SWancor and Kiswire.
Mar 2023- Jun 2023	Designed and performed Burst tests, Cyclic tests, curing and Tensile strength tests for different types of Carbon Composited Hydrogen Tanks and its samples
	Designed and performed burst tests for different types of composite hydrogen and hydrogen plus steel composited hydrogen tanks.
Mar 2023- Jun 2023	Performed various types of infusion to make a new type of resin having more strength and improved properties to be used in the manufacturing of carbon composite hydrogen tanks
	Purpose was to develop a new resin to have improved properties like strength, cost and durability.
Mar 2023- Jun 2023	Performed Laser & arc welding operations to fix and maintain various types of machines and new setups
Sep 2015- Jun 2016	Effectiveness of Lean Implementation in inventory reduction and its impact on financial & operational health of an organization, at Interloop Industries Pvt Ltd
	Purpose was to review existing literature of Toyota Production System/Lean manufacturing, investigate problem caused by inventory with identifying the waste, its root causes and to demonstrate how lean manufacturing can help the organization to eliminate inventory using 5S, cellular manufacturing, Heijunka, JIT, Visual Management, Batched Size Reduction, SMED(Single Minute Exchange of Die), KANBAN(pull system) and Kaizen
Sep 2015- Jun 2016	To develop a startup business plan for an entrepreneurial venture, at Small and Medium Enterprises Development Authority & Local Industry of Gujranwala
	My bachelor thesis was to study the literature review of entrepreneurship and idea generation techniques to develop twenty entrepreneurial ideas, then making its complete feasibility report with a strong and complete business plan.
Jan 2016- Jun 2016	Study and Implementation of 5S (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke), at University's <i>Production Lab</i>
	Work was conducted to become well trained in 5S and implement Seiri/Sort, Seiton/Set in order, Seiso/Shine, Seiketsu/Standardize and Shitsuke/Sustain in university workshop for its better understanding.

Gujranwala
First part was to define logistics and supply chain management and how various practices have been used to reduce costs and the competitive advantage of logistics and supply Running head chain in the hotel industry through costs reduction practices and properly managing its logistics and supply chain.
Reliability Centered Maintenance of Power generation Equipment, at University's
Power Generation Sector
Purpose was to prepare for the Analysis, Selecting the Equipment to Be Analyzed, Identifying its Functions & Functional Failures, Identifying and Evaluating (Categorize) the Effects of Failure, Identifying the Causes of Failure and Selecting Maintenance Tasks.
Making parts of Atlas Honda Bike in Solid Works & AutoCAD, at AutoCAD Lab
Worked in Solid Works and AutoCAD to make the body parts of Atlas Honda Bike with rough dimensions which focused on different commands of Solid Works and AutoCAD
Implementation of Cellular Manufacturing Layout, at Production lab
Worked to accelerate the improvement workshop at production lab with Product-Process Matrix, Functional and Product Flow Layouts: Benefits and Limitations, Benefits and Limitations and Cell Design and Implementation Process which resulted in Cell Layout, Set-Up Reduction, Inspection and Variability Reduction and Scheduling
Design & Fabricate the Inline Slider Crank Mechanisms, at Mechanics Lab
Worked on to make a design and fabricate an Inline Slider Crank Mechanisms, which is used to measure displacement, velocity and acceleration.
To study & mitigate the risk in planning, scheduling and managing the project using
Primavera P6, at Production Tooling Design Lab
Worked to learnt how to manage the project by appropriate primavera techniques, learnt about primavera and to investigate a Case study of scheduling & Planning.
For the Pitter William

Work Experience

Aug 2017-	Production Manager, at Medical Devices Pvt Ltd
May 2021	Worked in R&D for developing, designing and manufacturing of products .Beside that also worked in the manufacturing department for controlling the production operations and Implementing the Lean and Green Manufacturing Steps in the respective Industry.
Feb2018-	Chinese-English Interpreter, at different industries
Mar 2020	Went to China for Industrial visits, learning coding of CNC Lathes & Chinese for interpreting the updated manufacturing techniques. I am Fluent in Chinese. Had visited many industries and business setups in China.
Dec 2016-	Process Control Engineer, at Myrtle Industries Pvt Ltd (web.mdevices.com)
Jul 2017	Working in Quality Assurance especially regarding customer complaints, improving the industry's workshops and assembly line's layout, control and improve the production using Lean Techniques including Six Sigma and Motion economy principles. Using the Lean

	techniques to remove the rework percentage at different stages of production. Making daily as well as monthly production plans against production orders at ORACLE generated ERP (Enterprise Resource Planning) system. Working in Quality Control department to make different types of Go & No go gauges, testing on UTM (Universal Testing Machine), Checking environment effects on materials using atmospheric chamber as well as working to improve the quality of Electroplating & Electro polishing. Doing the mechanical maintenance also.
Jun2014-	Summer Internship as an Internee Engineer, at Myrtle industry pvt Ltd
Aug 2014	Made all attention to improve Production, Supply Chain by Inventory reduction as major. Improving industry layout. Worked to improve existing 5S system. Measuring the health and safety rules and modify them where needed. Analyzing different kind of wastes and reduced it by drawing and comparing Value Stream Mapping plus Process Flow Chart with ideal conditions.
Sep 2015-	
Jun 2016	(www.interloop-pk.com)
	Worked to investigate problem caused by inventory with identifying the waste, its root causes and to demonstrate how lean manufacturing can help the organization to eliminate inventory using 5S, cellular manufacturing, Heijunka, JIT, Visual Management, Batched Size Reduction, SMED(Single Minute Exchange of Die), KANBAN(pull system) and Kaizen.

Skills and Abilities

Design	Abaqus, AutoCAD, SolidWorks, Pro-e
Programs	
Programmin	C++, MATLAB
g Languages	
Project	Primavera P-6
Planning	
program	
Other	Microsoft office (Word, Excel, PowerPoint and Outlook), Windows XP,7-11
software	

Award & Achievements

Jan 2013-Jul 2016	Got scholarship from PEF (Pakistan Education Foundation), throughout BSc Engineering Program
Dec 2015	Best Batsman Award in University Annual Sports Gala 2015 as well as champion
Oct 2012- 2016	Active Member in Blood donor society in University
June 2016	Got first position in project exhibition 2016 in University
Oct 2013- 2016	Active member of ASME UET Chapter

Got first position in 5th class, in Secondary school education as well as in Higher
secondary school

Languages & Hobbies

Languages	English, Chinese, Hindi, Urdu, Punjabi, Arabic
Hobbies	Blogging, Traveling, Playing Badminton, Swimming, Learning new Languages