MUHAMMAD BABAR ZAIB

+92-332-2565132 | babarzaib021@gmail.com | Karachi, Pakistan | https://www.linkedin.com/in/babar-zaib/

PROFESSIONAL SUMMARY:

Industrial Engineer and Rector's Gold Medalist from NUST with 8+ years of experience in automotive and manufacturing. Strengthened by an MS in Computer Science, bringing expertise in digitization, product development planning, cost optimization, and data-driven decision-making. Proven track record of improving processes, reducing costs, and leading cross-functional projects to deliver measurable impact.

WORK EXPERIENCE:

Planning Lead - Localization July 2024 – Present

Lucky Motor Corp. (KIA & Peugeot - Pakistan) | Karachi, PK

- Driving localization strategy by selecting critical parts & subassemblies for local development through high-level feasibility analysis.
- Leading negotiations with OEMs to secure maximum local content within CKD cost structures and influencing approval processes.
- Developing and steering project roadmaps, allocating responsibilities across Development Groups, and ensuring adherence to key milestones.
- Overseeing deletion approvals with OEMs to align with business objectives and regulatory timelines.
- Utilizing advanced data analysis to monitor CKD composition, forecast import duties, and recommend actions to stabilize vehicle pricing.
- Governing supplier price revision mechanisms to safeguard margins while ensuring long-term cost competitiveness.

Planning Engineer – Localization December 2021 – June 2024

Lucky Motor Corp. (KIA & Peugeot - Pakistan) | Karachi, PK

- Conducted feasibility studies to identify parts & subassemblies suitable for local development.
- Coordinated with OEMs to obtain part approvals and align local content levels with CKD cost requirements.
- Prepared development plans, tracked project timelines, and supported Development Groups in execution.
- Processed deletion approval requests from OEMs to meet program schedules.
- Analyzed CKD data and import duties to support vehicle price sustainability.
- Processed supplier price revision cases to maintain profitability while balancing supplier relationships.

Assistant Manager - Imports Management June 2018 – December 2021

Pak Suzuki Motor Co. | Karachi, PK

- Monitoring SRO's and Tariff structures and ensuring accurate duty rates for all imported parts & subassemblies for all Suzuki products.
- Analysis and anomaly rectifications related to FOB costs of every imported component.
- Data Analysis to continuously conduct cost saving projects including Supplier's imports duty analysis to save excess duty paid, shifting of in-house subassemblies to suppliers to save operational costs & obtain duty benefit by Government of Pakistan.

Officer - Operational Excellence November 2017 – June 2018

Feroze1888 Mills Ltd. | Karachi, PK

- Process Analysis to identify and execute cost optimization, process improvement projects at manufacturing and supply chain of Feroze1888 Mills.
- Staff trainings on continuous improvement tools including Lean, Six Sigma.

Officer - Production Planning July 2017 – November 2017

Alkaram Textile Mills Ltd. | Karachi, PK

- Improving production planning processes to ensure material availability, efficient production, and on-time delivery

HONORS – AWARDS

Project Lead & Gold Medalist July 2016 – May 2017

Lead Time reduction in Supply Chain of Feroze1888 via Lean Six Sigma | Karachi, Pakistan

- Received NUST Rector's Gold Medal for best final year project of 2017

Manufacturing Head July 2014 – December 2015

Participation at IMechE Formula Student Competition - Silverstone, UK | Pakistan

- Designed & fabricated Formula Race Car for Motorsports Competition held at Silverstone Racing Circuit, UK.
- 49th Position out of 100 teams at Formula Student Competition 2015, held at Silverstone Racing Circuit, UK.

PROJECTS

"QuickShift" – AI-Driven Workforce Scheduling

- Automated hybrid workplace planning by optimizing onsite/remote shifts, improving resource allocation and reducing scheduling conflicts.
- Built with Python, Django, Pandas, and CVXPY, featuring seat-level scheduling, leave management, and real-time dashboards.

"TruckPool" – Courier Pooling & Route Optimization

- Enabled cost-efficient logistics by pooling shipments, optimizing truck loading, and minimizing delivery routes for shippers and senders.
- Developed on Django with Google Maps API and WebSockets, implementing 3D Bin Packing, TSP, and Clarke-Wright algorithms for load and route optimization.

"CommonGoods" – Smart Grocery Inventory Sharing

- Improved supply chain efficiency and waste reduction by enabling local stores to share inventory, forecast demand, and apply dynamic discounts.
- Built using Python, Django and Google API, with demand forecasting and route optimization algorithms for streamlined delivery.

"SmartCommute" – Employee Transport Optimization (Masters' Capstone project)

- Optimized corporate employee pick-and-drop services, reducing travel time and improving vehicle utilization for company fleets.
- Implemented in Python, Django, and Google Maps API, using TSP and Clarke-Wright algorithms for route planning and capacity optimization.

OTHER PROJECTS January 2018– Present

Automotive AI Solutions

- Built an HS Code recommender system for Pak Suzuki using TF-IDF, Count Vectorization, and cosine similarity, deployed via FastAPI to improve customs classification accuracy.
- Trained a TensorFlow–Keras CNN for car image recognition (Swift vs. Wagon-R), achieving 86% validation accuracy, showcasing applications in automotive cataloguing and insurance.

NLP & Text Mining Applications

- Designed factoid question generation using spaCy POS tagging, regex, and NER, reducing manual effort in e-learning content development.
- Developed a hybrid QA engine combining LSI, Word2Vec, and Doc2Vec for semantic search and context-aware answering.
- Implemented news headline clustering & topic modelling with K-Means, Affinity Propagation, Dendrograms, and LSA, uncovering emerging themes and trends from real-time data.

Deep Learning for Education

- Built a Hypergraph Convolutional Neural Network (HGCN) in PyTorch to model complex student–content interactions, enabling personalized tutoring recommendations in EdTech.

AI in Research Analytics

- Applied Decision Tree, Random Forest, Naïve Bayes, and KNN classifiers to extract dataset references from academic publications, achieving 89% accuracy, demonstrating ML-driven literature mining.

Smart Retail Checkout System

- Developed an AI-powered checkout pipeline using YOLOv5 (47M+ parameters) for real-time object detection.
- Deployed with Docker, Azure ML, App Services, and Blob Storage; incorporated SHAP-based model

interpretability for transparency.

- Delivered a cloud-based MLOps solution for scalable retail automation.

EDUCATION:

Master of Science in Computer Science May, 2024
Institute of Business Administration (IBA Karachi) | Pakistan

Bachelor of Engineering in Industrial and Manufacturing Engineering May, 2017
National University of Science and Technology (NUST) | Pakistan

TECHNICAL SKILLS AND TOOLS:

Programming & Data Engineering

- Python, SQL, C#, Django, Jenkins, Docker, Arduino
- AWS & Azure Cloud Services

Machine Learning & AI

- scikit-learn, PyTorch, TensorFlow
- Expertise in **Computer Vision, NLP, Unsupervised Learning**
- Model interpretability (SHAP), MLOps workflows

Data Analytics & Visualization

- Pandas, MS Excel (Advanced, Macros), Power BI
- Data handling, exploratory analysis, and reporting

Design & Simulation Tools

- CAD/CAE: CREO, SOLIDWORKS, ANSYS, ABAQUS
- Process & Product Simulation: Lanner WITNESS, NI Multisim

Creative & Graphics Tools

- 3ds Max, Adobe Photoshop, Illustrator, After Effects

Project & Quality Management

- Microsoft Office (Visio, Project)
- Lean Six Sigma, TQM, Production Planning, Product Development

Professional Skills

- Strong organizational & time management skills
- Excellent presentation & communication abilities
- IT project coordination experience