Basel AlJeshi

📞 857-961-7982 ✉ aljeshi.b@northeastern.edu in linkedin.com/basel-aljeshi/ 💼 tinyurl.com/basel-projects

Education

Master of Science in Product Development — Expected May 2025
Northeastern University (GPA: 3.83) — Dean Scholarship — *Boston, USA*

Relevant Coursework: Engineering Design Methodology, Product Design for Engineers, Iterative Product Prototyping, Customer-driven Tech Innovation

Bachelor of Engineering in Mechanical Engineering — Graduated Jul 2020
University of Birmingham (GPA: 4.00) — Bapco Scholarship — *Birmingham, UK*

Relevant Coursework: Mechanics, Thermodynamics, Fluid Mechanics, Electrical Eng, Control, Manufacturing, Computing, Eng Material, CFD & FEA, Mechanical Design, Vehicle Eng, Sustainable Energy, Mechatronics

Technical Skills

Technologies: Solidworks, ANSYS (CFD), ABAQUS (FEA), Figma, Matlab, Tableau, OMRON TM5 Robots, Laser Cutting, CNC Wood Router, FDM & SLA 3D Printing, Arduino
Programming Languages: Java, Python, C++, C, C#, SQL, JavaScript, HTML/CSS, VBA, LaTeX
Human Languages: English (Native), Arabic (Native)

Projects

Inhaler Puff Tracker | *SolidWorks, Figma, Embedded C, DFMA, FMEA, Rapid Prototyping,* — Sep 2023 – Dec 2023
- Led a four-person team from concept to prototype, focusing on user testing and development stages
- Produced detailed engineering drawings for functional product, focusing on DFMA & material selection, leading to creation of various prototypes including 3D printed models and functional electronic version

Autonomous Bolt Inspection | *Machine Learning, Halcon, Python, Robotics* — Sep 2019 – May 2020
- Developed machine learning method for bolt condition assessment using semantic segmentation, integrated with autonomous robots to enhance remanufacturing efficiency

Hybrid Tram Design | *Solidworks, DFMA, FMEA, FEA, Mechanical Design* — Sep 2019 – Apr 2020
- Designed a public transit EV in a team of 35, where I led a subgroup of 6 to design the powertrain subsystem (Motor, Chassis, Suspension, Transmission) up to BS8888, while interfacing with other subgroups
- Authored a report on technical design, covering sustainability, market analysis, and ethical & legal considerations

UAV-Engine & Speed Reducer Design | *Solidworks, DFMA, FMEA, FEA, Mechanical Design* — Sep 2018 – May 2019
- Led the design of a compact two-stroke engine and speed reducer for a search and rescue UAV as part of a three-member team, utilizing Solidworks for precision engineering
- Produced a detailed report on power, force, and material stress calculations, along with BS8888-standard engineering drawings for assembly

Experience

Makerspace Supervisor — Nov 2023 – Present
EXP Makerspace — *Boston, USA*
- Manage makerspace operations, including staff supervision, maintenance of diverse equipment (FDM, SLA, laser cutting, woodworking), and conducting orientations, ensuring optimal functionality and safety
- Support patron projects across various domains like crafts, textiles/embroidery, enhancing user experience and fostering innovation through hands-on assistance and continuous development of the space

Business Performance & Assurance Specialist — Mar 2023 – Aug 2023
Zain Bahrain — *Seef, Bahrain*
- Automated revenue assurance & fraud management processes, achieving a 90% reduction in execution time with SQL & Python
- Created Tableau dashboards for data-driven revenue and fraud trend analysis, aiding senior management in decision-making

Freelance Engineer — Nov 2022 – Jul 2023
Fablab Makerspace — *Adliya, Bahrain*
- Designed and implemented a range of facility enhancement projects in the makerspace using digital fabrication tools
- Conducted STEM workshops and produced promotional content, doubling makerspace patronage

Associate Shutdown Engineer — Aug 2021 – Oct 2022
Bapco Energies - Refining — *Adliya, Bahrain*
- Coordinated plant shutdown projects, managing manpower and materials.
- Developed a live safety compliance dashboard, automating report generation and increasing efficiency by 94%, and hosted a seminar on machine learning for defect detection
- Streamlined processes using VBA and Power Automate through automated calculations and resource allocation

Design Engineer — May 2021 – Aug 2022
BFG International — *Mina Salman, Bahrain*
- Developed sustainable wastewater treatment tank designs for commercialization in a small team
- Developed a MatLab-based application for live data monitoring & visualization of machine readings