

Abdelrahman Amin M. Yousef

Jordan, Amman | Phone :+962780044570 | Email : ameen.m.yousef@gmail.com
linked in link : <https://www.linkedin.com/in/abdelrahman-ameen-yousef-b2665821a/>.
Portfolio link : <https://aminyousef.github.io/amineyousef.githubup/>.

EDUCATION

MIT-Fab Foundation

High diploma in Digital fabrication (Final project: Design of Prosthetic Hand)
My website : <https://fabacademy.org/2022/labs/techworks/students/amin-yousef/>

Amman, Jordan
Jan 2022 - June 2022

University of Jordan , School of Engineer

Bachelor of Science in Mechanical Engineering. (Final project: Design of A Self-Configuring Modular Robot)
Cumulative GPA:3.3/4.00

Amman, Jordan
Sep 2016 - Sep 2021

PROFESSIONAL EXPERIENCE

Afaq, Mechanical Design Engineer

Amman, Jordan
Nov 2022 - Present

- Design and develop efficient production machines for food and pharmaceutical industries, utilizing methods such as CNC machining, sheet metal fabrication, turning, argon welding, grinding, polishing, and laser, plasma, and water jet cutting.
- Apply appropriate manufacturing processes, considering material properties, production volume, cost, quality requirements, and driving continuous improvement for cost optimization and innovation.
- Conduct feasibility studies and risk assessments to ensure technical viability and compliance with standards and regulations.
- Collaborate with cross-functional teams to integrate design with manufacturing processes, ensure quality standards, and manage procurement.
- Generate CAD models using Autodesk Inventor software, creating detailed and accurate representations of production machine designs for analysis, visualization, and further design iterations.
- Export technical drawings from CAD models, providing comprehensive documentation and specifications for manufacturing and assembly processes.

Freelance

Amman, Jordan
Sep 2021 - Present

- Customizing small-scale CNC machine designs for home shops, considering specific bed dimensions and optimizing space efficiency.
- Prototyping and testing wide range designs to ensure functionality, usability, and manufacturability.

Fab Lab TechWorks, Digital Fabrication Intern

Amman, Jordan
July 2021 - July 2022

- CAD Design & Product Development: Expertise in using CAD software for product design, incorporating engineering principles.
- Versatile Prototyping: Proficient in utilizing additive manufacturing technologies (FDM, SLA, LDM, SLS) and subtractive manufacturing (CNC machining, and laser cutting) for rapid prototyping. Capable of transforming digital designs into physical prototypes with precision and efficiency.
- CNC Machining & Laser Cutting: Skilled in operating CNC routers for precise component fabrication.
- Experienced in molding and casting processes with Silicone Molds for replicating and producing multiple identical parts.
- Involved in the design and fabrication of soft robotics projects, utilizing innovative materials and techniques to create flexible and responsive robotic systems.
- Designing and fabricating basic PCBs, utilizing microcontrollers such as ATtiny and ATmega.

TECHNICAL SKILLS & ABILITIE

Software: CAD (SolidWorks, Creo, Fusion360, Autodesk inventor), Ansys (Static structure), Cura , V-Carve, Inkscape, MS Office (Excel, PowerPoint, Word), Autodesk Eagle, Photoshop.

Hardware: 3D printer (FDM, SLA, LDM, SLS), Fabrication (laser Cutter, CNC Milling, Vinyl, Molding and Casting)
Soft Robotics, dealing with manufacture process (CNC milling machine, Turning, sheet metal, grinding, polishing, assembly)

PROJECTS & PRESENTATIONS

FAB ACADEMY, AMMAN FAB LAB “TECHWORKS”

Amman, Jordan

Design and Fabricate of Prosthetic Hand

- The main structure is printed in place, in other words, all parts of the main structure can be fabricated in a single stage using a FDM 3D printer.
- The design is parametric by connecting parametric CAD file dimensions with adjustable parameters, resulting in designs that can be easily customized to meet specific size requirements.
- The prosthetic hand systems operated by a combination of 12 servo motors and EMG signals.
- For more information <https://fabacademy.org/2022/labs/techworks/students/amin-yousef/finalproject.html>

University of Jordan, Department of Mechanical Engineering**Amman, Jordan***Design and Fabricate Self-Configuring Modular Robot*

- A self assembly robot consists of a group of similar cells (Main part), each cell has five degrees of freedom. These cells are formed according to the shape and required function. The project involved: Module Design using Creo, prototyping, control circuit and simulation using Ansys.

FAB ACADEMY, AMMAN FAB LAB “TECHWORKS”**Amman, Jordan***Design and Fabricate Soft Robotics*

- Create a soft robotics hand by designing and fabricating it through silicone casting, utilizing appropriate materials, precise 3D modeling, and prototyping. Integrate an actuation mechanism, such as the Flow IO device, to enable controlled movement and functionality.
- Flow IO Device: Utilize the MIT Media Lab-developed Flow IO device, by a PhD student, as the actuation mechanism for the soft robotics hand, providing precise and coordinated movement.
- <https://fabacademy.org/2022/labs/techworks/students/amin-yousef/week17.html>

FAB ACADEMY, AMMAN FAB LAB “TECHWORKS”**Amman, Jordan***Design and Fabricate Clay forming machine*

- Clay forming machine is a 4 axis CNC with rotating disc which is designed with the motive of automating the process of forming clay, the most important of which is accelerating the production process and increasing accuracy.
- <https://fabacademy.org/2022/labs/techworks/students/amin-yousef/week15.html>

University of Jordan, Department of Mechanical Engineering**Amman, Jordan***Design and Foldable Home gym Machine*

- The machine design involved: CAD model of the machine using SolidWorks, Finite element analysis using SolidWorks and Ansys, Design optimization to reduce the cost of production taking into consideration dynamic load and dimension requirement.

FAB ACADEMY, AMMAN FAB LAB “TECHWORKS”**Amman, Jordan***Design Drone Structure Use Generative design*

- Optimize drone structure using generative design. Refine designs for maximum performance with minimal materials.
- <https://fabacademy.org/2022/labs/techworks/students/amin-yousef/week3.html#branch8>

FAB ACADEMY, AMMAN FAB LAB “TECHWORKS”**Amman, Jordan***Design and fabrication of Ameno PCB board*

- The Ameno PCB board is an electrical board that utilizes the ATmega328P microcontroller, providing Arduino-like functionality.
- <https://fabacademy.org/2022/labs/techworks/students/amin-yousef/FSchematics%20and%20PCBs.html>