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Professional Experience

Design Engineer – SEKO S.P.A

Milan, Italy
November 2023 to present

- Designed double-diaphragm pump components in accordance with client requirements and industry standards using CREO parametric.
- Created detailed drawings of pump components and their accessories using CREO.
- Managed files on Windchill and Bill of material on SAP.
- Prepared engineering documentation for pumps.
- Calculated pump parameters and performed Approach 1 analysis.

R&D Engineer – Airbliss +

Eindhoven, Netherlands
January to October 2023

- Analyzed methods to block debris from entering a mask for mining applications.
- Created concepts and evaluated them based on airflow resistance.
- 3D-modeled debris prevention bezels and meshes and created physical prototypes for each.

Product Designer – BiomimX

Milan, Italy
February to December 2022

- Designed a multiwell plate that mechanically stimulates and cultures 3d cell microtissues for drug research with focus on reducing product parts, set up time and assembly.
- Gathered user needs and requirements through questionnaires.
- Performed analysis to ensure correct mechanical stimulation to mimic organ behavior such as CFD and FEA.

Product Design Intern – BIOND Solutions BV

Delft, Netherlands
July to October 2021

- Analyzed existing OOC and cell culture technologies in the market and research papers.
- Compiled a requirement list for organ on chip systems.
- Created organ on chip system concepts for high throughput applications to ease assembly and decrease user input.
- Mapped microchannels pneumatic diagrams.
- Designed organ on chip systems plate layers, perfusion valves, and medium and cell change process.

Product Designs

kindergarten Toy Sanitizer

- Compiled a technical, manufacturing and materials report.
- Calculated UVC light intensity and number of LEDs required, in addition to heat dissipation and pulley and belt system calculations.
- Performed structural analysis using FEA.
- Created a detailed 3D model through design for assembly and manufacturing.
- Drafted technical drawings of each part along with renders for visual display.

Research

Evaluation of an F1 car rear wing

- Designed rear wings and flap to examine the distance between both and studied the effect of different gurney flaps using CFD analysis on ANSYS.
- A superior wing and flap design was achieved which increased the efficiency through reducing the drag and increasing the down force.

Ahmad Chabayta

Design Engineer

Education

Master of Science in Design and Engineering
Politecnico di Milano
(Class of 2022-2023) - Final grade 107/110
Thesis: Design of an Organ-on-Chip multiwell plate to culture 3D cell microtissues and provide mechanical stimuli

Bachelor of Science in Mechanical Engineering (BSME)
New York Institute of Technology
(Class of 2019-2020) - GPA 3.49/4
Thesis: Influence of wrap angles and angles of twist on the performance of the centrifugal pump

Technical Skills

Engineering design and simulation software:
CREO, SolidWorks, Fusion 360, Inventor, ANSYS, Abaqus, MATLAB

Markup languages:
HTML5, CSS3

Design software:
Keyshot, Photoshop, Illustrator

Design skills:
Physical prototyping, digital fabrication, rendering, Usability testing, 3D modeling

Awards

Thales tech challenge (2019)
Academic merit Awards (2017-2018-2019)
Best Customer Service representative (2018)

Languages

English (Fluent - Advanced)
Italian (Intermediate - B1)
Arabic (Native Speaker)

Personal interests

Crafting, wood carving, video games