

Previously at **Airbus**

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Summary

- **Airbus**, Mechanical Engineer Intern.
- **Mechanical Engineering**, MSc & BSc, Ranked **3 out of 79** among all BSc graduates.
- **Machine Learning & Deep Learning Expertise:**
 - **Airbus project:** Deployed Machine Learning models to evaluate and optimize A220's buoyancy for emergency water landings, conducted simulations for 17 scenarios ensuring prolonged floatation and safe evacuation, and validated results with a trusted tool in use since 2008.
 - **Self-Driving Car project:** Developed an autonomous vehicle system using YOLOv4, Darknet, Python, and OpenCV, showcasing my ability to integrate Deep Learning with mechatronics for real-time object detection.
- **Projects:** Conducted **64** projects for 31 courses using 9 software and 5 coding languages.

Industry Experience

Internship 3: Summer 2023 | Mechanical Engineer at **Airbus**

- Deployed Machine Learning models to assess the A220 buoyancy and accommodate any changes in specifications to ensure its effective performance in emergency water landings (ditching).
- Developed simulations to investigate 17 different ditching scenarios assuring A220 would remain afloat for an adequate duration, allowing passengers and crew to evacuate into lifeboats safely.
- Validated the developed model with the last tool, which has been in use since 2008.

Internship 2: Summer 2020 | Mechanical Engineer at Pishgam Daghigh Sazan (PDS)

- PDS was a startup with 20 employees. Some of my duties included assisting the founder and CEO, handling technical issues, and negotiating with the company's customers and key partners.
- Worked in the tooling workshop.
- Assisted Production, Marketing (Advertising, Selling, Delivering), and After-sales Services processes.

Internship 1: Summer 2019 | Mechanical Engineer at Bidboland 1 - Gas Processing

- Assisted the engineers in the technical office with double-checking the data collected by the technicians.
- Visited various sites of the refinery to observe the practical application of theoretical knowledge as part of the internship benefits/contract.
- Took the HSE workshop as part of the internship benefits/contract.

Mechanical Engineering Skill Set
























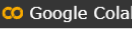
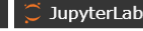








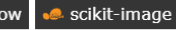








- Engineering Software: ○ SOLIDWORKS ○ ANSYS ○ ABAQUS ○ Simulink
 ○ Arduino ○ MSC Adams ○ PSIM ○ Tecplot
- Programming Skills: ○ Python ○ C++ ○ R ○ MATLAB
 ○ FORTRAN ○ Java
- Office Software: ○ Microsoft (Word, Excel, PowerPoint, Visio) ○ Google (Docs, Sheets, Slides)
- Operating Systems: ○ Linux ○ Windows

Data Science Background

Delved deeply into Data Science since 2021, guided by industry-leading experts. Their LinkedIn Recommendations on my behalf serve as testimonials of my Data Science capabilities:

- Hamid Shojaei: PhD, Senior Data scientist consultant at Excelacom, USA.
 “Over the last few years, I have taught Mohammad machine learning algorithms, Deep Learning, Time Series forecasting, and advanced Python, and R programming. He not only pays attention to the details but also has a bird-eye view of the concepts, which makes him very capable of joining any machine learning project. On his journey toward becoming a data scientist, Mohammad is highly motivated, organized, and focused.”
- Mostafa Mohammad Rezaee: Data Science PhD Candidate, Bowling Green State University, USA.
 “As part of our collaboration since 2021, Mohammad and I worked together to collect and organize valuable code examples and Machine Learning concepts to be used later in our projects. As a result, he now has a solid background in Data Science, including Machine Learning, Deep Learning, Data Mining, Visualization, STAT, Python, and R.”

Machine Learning Skill Set

| Skills | Selected programming languages and Libraries |
|----------------------|---|
| Machine Learning |   |
| Deep Learning |     |
| Python |          |
| R |     |
| SQL |   |
| Visualization |   |
| Editors |      |
| Git |    |
| Image Processing |    |
| Time Series Analysis |      |
| Package Manager |    |

Honors and awards

- 2017-2021 Graduate with honor (BSc), ranked as **3 out of 79** Mechanical Engineering students.
- 2017 Ranked as **top 5%** out of **148,429** applicants in centralized **nationwide** university entrance exam.
- 2005-2017 For **12 years** (K-12), I was an honored student.