



Ali Furkan Akgül

Mechanical Engineer

Machine Design & Analysis · Manufacturing Engineering · M.Sc. Candidate in Materials Science and Engineering

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ABOUT ME

Mechanical Engineer with hands-on experience in machine design, manufacturing and process improvement, currently pursuing an M.Sc. in Materials Science and Engineering. Has carried out end-to-end design work — from concept and sizing to analysis and manufacturing drawings — on servo, hydraulic and pneumatic press systems and a robotic arm, and prepared a 313-sheet manufacturing drawing set for six press machines. Combines GD&T, CNC machining, ISO 9001 and lean manufacturing with the precision, traceability and quality discipline that aerospace manufacturing demands; actively learning CATIA and Siemens NX.

WORK EXPERIENCE

09/2026 – Present · Kahramanmaraş, Türkiye

MANUFACTURING ENGINEER

Gülsu Makina

- Engineering follow-up for the manufacturing and assembly of press machines and robotic systems.
- Applying GD&T (Geometric Dimensioning and Tolerancing) principles across production and quality control.
- Design and analysis of hydraulic and pneumatic machine systems for manufacturing applications.
- Prepared complete SolidWorks manufacturing drawing sets (assembly, BOM, part drawings, DXF flat patterns) for six presses from 30 t to 1000 t — 313 sheets in total.
- Developing skills in industrial automation and control systems (PLC, sensor and actuator integration).

Business or sector: Manufacturing of machinery and equipment

04/2026 – 07/2026 · Kahramanmaraş, Türkiye

PRODUCTION ENGINEER

Teknomelt Teknik Mensucat

- Investigated the root causes of production line downtime as part of process optimisation.
- Implemented Kaizen and 5S on the shop floor to improve line efficiency and reduce waste.
- Participated in on-site ISO 9001 quality management system audits, supporting process compliance verification.
- Contributed to operational excellence through lean manufacturing and line optimisation projects.

Business or sector: Manufacture of textiles (nonwovens)

09/2025 – 07/2026 · Kahramanmaraş, Türkiye

R&D ENGINEER / SUPPORT MEMBER

Teknomelt Teknik Mensucat

- Contributed to product development projects integrating new technologies into nonwoven fabric solutions.
- Supported the development of new material formulations focused on sustainability and performance.
- Research, data analysis and testing with cross-functional teams; documented findings in technical reports.
- Project management responsibilities including planning, progress tracking and team coordination.

02/2025 – 06/2025 · Kahramanmaraş, Türkiye

ENGINEERING INTERN

AK Gıda

- Periodic preventive and predictive maintenance; fault detection and planned interventions.
- Field troubleshooting applying systematic root cause analysis.
- Studied critical process equipment on site: homogenisers, heat exchangers, UHT systems and automatic filling machines.

Business or sector: Manufacture of food products

07/2024 – 11/2024 · Kahramanmaraş, Türkiye

ENGINEERING INTERN

KGM Makine

- Practical experience in machining with CNC machines and pneumatic systems.
- Technical drawing interpretation and GD&T; tracked part manufacturing and assembly against technical documentation.

01/2021 – 09/2021 · Kahramanmaraş, Türkiye

INTERN

Gülsu Makina

- Conventional and modern machining methods using CNC machines and pneumatic systems; GD&T on technical drawings.
- Applied theoretical engineering knowledge on the shop floor, strengthening analytical problem solving.

EDUCATION AND TRAINING

02/2026 – Present · Kahramanmaraş, Türkiye

MASTER OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING

Kahramanmaraş Sütçü İmam University

Level in EQF: EQF level 7

09/2019 – 06/2025 · Gaziantep, Türkiye

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Gaziantep University

Level in EQF: EQF level 6 · Fields: machine design, thermodynamics, fluid mechanics, manufacturing, materials, CAD/CAE

LANGUAGE SKILLS

Mother tongue(s): Turkish

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
English	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

CAD / CAE

SolidWorks (part, assembly, drawing, simulation) · AutoCAD · FluidSim

CAD / CAM — developing

CATIA · Siemens NX · SolidCAM

Automation —
developing

PLC programming · sensor and actuator integration

Enterprise & office

SAP · Canias ERP · Microsoft Office (Word, Excel, PowerPoint)

JOB-RELATED SKILLS

Design & analysis	Machine and press design · Structural analysis (FEA) · Hydraulic and pneumatic systems · Mechanism and robotic arm design
Manufacturing	CNC machining · Laser cutting · CNC press-brake forming · Plasma cutting (DXF preparation)
Quality & standards	ISO 9001 · GD&T · Technical documentation · Root cause analysis
Operations & maintenance	Lean manufacturing · Kaizen · 5S · TPM · Preventive and predictive maintenance · Project management

PROJECTS

Servo Press Design — SolidWorks · FEA

3D modelling and assembly design of frame, slide and servo drive train; sizing of load-bearing components; frame strength and stiffness verified by FEA; manufacturing drawings with GD&T.

Hydraulic Press Design — SolidWorks · FluidSim · FEA

Hydraulic cylinder sizing from required press force; hydraulic circuit design and FluidSim simulation; structural analysis of the frame under working load.

Pneumatic Crushing Press Design — SolidWorks · FluidSim

Pneumatic cylinder-driven crushing mechanism; control circuit design and simulation; force and stroke calculations; manufacturing drawings.

Robotic Arm Design & Analysis — SolidWorks · FEA

Link and joint design and kinematic structure; joint torque calculations for actuator selection; structural analysis under load.

ADDITIONAL INFORMATION

Military service	Deferred until 30/06/2029
References	Prof. Dr. Necla Kara Toğun — Gaziantep University, Department of Mechanical Engineering Assoc. Prof. Dr. Abdullah Akpolat — Gaziantep University, Department of Mechanical Engineering <i>Contact details available on request.</i>
Portfolio	Technical drawing portfolio of six press machines available on the personal website and on request.