BERK ÇETİNKAYA

Mechanical Engineering Student | R&D, CAE & Mechanical Design

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PROFILE

Mechanical Engineering undergraduate with hands-on experience in FEA, CFD, CAD, manufacturing and industrial robotics. Designed and analysed mechanical systems using ANSYS, STAR-CCM+, Fusion 360 and Autodesk Inventor, and programmed a KUKA industrial robot.

EDUCATION

B.Sc. Mechanical Engineering | **Özyeğin University** **2022 - Expected Jun 2027**

50% Performance-Based Scholarship | Relevant Coursework: Machine Design, Finite Element Analysis

EXPERIENCE

Mechanical Engineering Intern | **Sinbo** **Aug 2026 - Sep 2026**

- Supported automation, R&D, mechanical design and engineering-analysis activities for product development and manufacturing processes.
- Created and reviewed CAD models/technical drawings and performed engineering analyses to evaluate design performance and identify improvements.
- Assisted quality-control and production-planning activities by checking component/product conformity, monitoring production flow and coordinating manufacturing requirements.

Manufacturing Laboratory Teaching Assistant | **KİMTAL Laboratory** **2026 - Present**

- Support Manufacturing course practicals involving CNC machining, milling, welding, powered cutting equipment and manual sawing; train students on safe machine operation and troubleshoot setup issues.

Mechanical Engineering Intern | **Rösler Group Kromaş** **Jun 2025 - Jul 2025**

- Contributed to the manufacture and assembly of four vibratory surface-finishing machines, including frames and motor systems; performed TIG, MIG/MAG and laser welding, drilling, fitting and assembly.
- Interpreted tolerances, surface-finish requirements and welding symbols; verified dimensions with vernier calipers and supported quality-control inspections.
- Built a Power BI sales dashboard from Excel data with macro-driven refreshes; presented it to management and it was adopted for internal use.

Process Technician / Assembly Worker | **PlattenFIX** **Aug 2024 - Sep 2024**

- Supported four-axis CNC and plastic injection-molding operations; improved machining stability and part quality by adjusting workpiece balance, coolant parameters and molding temperatures, and assembled finished components.

ENGINEERING PROJECTS

Mini Ventilation Fan Design and Multiphysics Analysis | **Individual Project** **Aug 2026 - Sep 2026**

- Designed a 95 mm three-bladed mini ventilation fan in Fusion 360 and evaluated 1,000-3,000 rpm operation through ANSYS CFD, static structural, fatigue, modal and harmonic-response analyses; selected 3,000 rpm as the preferred numerical design speed.

Hydraulic Guillotine Machine | **Team Project** **Jan 2026 - Present**

- Designed a hydraulic guillotine for cutting sheet metal up to 3 mm in Fusion 360 and performed ANSYS structural FEA for equivalent stress, total deformation and factor of safety; prototype fabrication is planned.

Wind Tunnel Design and CFD Analysis | **Individual Project** **Jun 2026 - Present**

- Modelled raindrop, flat-plate and miniature-vehicle geometries in Fusion 360; ran STAR-CCM+ simulations, calculated drag/lift and visualized flow disturbance; physical construction is in progress.

KUKA Thermal Paste Automation | **Three-Person Team** **Feb 2026**

- Programmed a KUKA KR6 R900 Sixx robot, validated the sequence in KUKA.Sim and developed an Arduino-controlled NEMA 23 end effector to dispense thermal paste onto a CPU.

TECHNICAL SKILLS

CAD: Autodesk Inventor Fusion 360 , Siemens NX, Rhino
CAE: ANSYS , STAR-CCM+ , MSC Adams
Automation & Programming: KUKA.Sim, Arduino IDE, MATLAB/Simulink, Python, SQL
Data & Manufacturing: Microsoft Office , Excel, Power BI, CNC machining, milling, TIG/MIG/MAG/laser welding, injection molding, mechanical assembly, dimensional inspection
Languages: English (C1), German (A2)