

Berat Balmış

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SUMMARY

Final-year Mechanical Engineering student at İzmir Institute of Technology, with a Computer Engineering minor and an Erasmus+ semester at Tallinn University of Technology. Experienced across CAD design, BOM/SAP workflows, and engineering automation with Python, VBA, and Excel, gained through part-time R&D work and multiple industry internships. Comfortable bridging hands-on design with data-driven analysis, and seeking roles in the defense, automotive, and advanced manufacturing industries.

EXPERIENCE

Turkish Aerospace Industries <i>Engineering Intern</i>	Jul. 2026 – Aug. 2026 Ankara, Türkiye
Ongoing summer internship in the aerospace and defense industry	
Groupe Atlantic <i>R&D Engineer (Part-Time)</i>	Oct. 2025 – May 2026 İzmir, Türkiye
- Used Creo Parametric for 3D design and technical modifications of product components - Worked with SAP and BOM management processes across R&D and production workflows - Automated engineering data analysis and reporting with Excel, VBA, and Python	
CMS Wheel Industry <i>Machining Intern</i>	Sept. 2025 – Oct. 2025 İzmir, Türkiye
Completed a 20-day internship in machining operations; observed CNC processes and tooling	
General Directorate of Highways (KGM) <i>Summer Intern</i>	Aug. 2024 – Sept. 2024 Türkiye
Completed a 20-day internship in Machinery Supply and Manufacturing	

EDUCATION

İzmir Institute of Technology <i>B.Sc. in Mechanical Engineering — Major Programme</i>	Sept. 2021 – Present İzmir, Türkiye
İzmir Institute of Technology <i>Computer Engineering — Minor Programme</i>	Sept. 2022 – Present İzmir, Türkiye
Tallinn University of Technology <i>Mechanical Engineering — Erasmus+ Exchange Programme</i>	Jan. 2024 – Jun. 2024 Tallinn, Estonia

SKILLS

CAD : SolidWorks, Siemens NX, CATIA, Creo Parametric
CAE / Simulation : ANSYS
Programming : Python (data analysis), VBA, MATLAB, HTML/CSS (basic front-end)
Tools : MS Office (advanced Excel), SAP, Git, effective use of AI tools
Languages : Turkish (Native), English (B2)

INTERESTS

Football · Basketball · Chess · Formula 1 · Watching Series & Films

PROJECTS

Three-Stage Gearbox Design for a Wind Turbine | IZTECH

2026

- Designed a two-stage gearbox with 3 fixed speed ratios coupling the rotor shaft to the generator
- Verified bending (tooth root) and contact (surface) strength of all gears using AGMA procedures
- Evaluated a helical-gear alternative; selected a more economical 8-gear full-depth spur configuration due to lower cost
- Targeted a minimum 80,000-hour service life at 98% reliability, keeping the overall safety factor within 1.8–2.0

Shell-and-Tube Heat Exchanger Design | IZTECH

2025

- Designed a tube-bundle heat exchanger transferring 840 MWt from a sodium-cooled fast reactor (SFR) to water
- Applied the Seban & Shimazaki correlation for heat transfer coefficients; assessed flow regimes via Reynolds/Prandtl/Nusselt analysis
- Improved thermal performance with a counter-flow arrangement and triangular tube pitch layout
- Compared 3 configurations by varying tube count, tube diameter, and shell diameter; selected a 316 stainless steel design reaching 44% effectiveness

Chain Drive System Design | IZTECH

2025

- Determined design power for a chain drive driving a centrifugal compressor using SKF catalogue service, temperature, and speed factors
- Selected standard sprockets for the target ratio and verified output speed within a 7% tolerance band
- Compared single-strand (28B-1) and duplex (24B-2) alternatives; recommended the finer-pitch duplex design for reduced polygon effect
- Computed chain length via the K-factor method and specified the appropriate lubrication type

V-Belt Drive System Design | IZTECH

2025

- Designed and analysed a V-belt power transmission system; computed transmitted power, belt speed, and required pulley diameters
- Determined belt length, shaft center distance, tension forces, and safety factors; selected the belt type for the given load and duty conditions

Sand Casting Experiment | IZTECH

2025

- Investigated solidification behaviour and mould cooling with embedded chill tubes
- Analysed surface defects, dimensional tolerances, and mechanical properties; applied post-machining to assess manufacturing feasibility