BERKANT KADIR AYAZ

Mechanical Engineer (B.Sc.)
M.Sc. Mechanical Engineering Student at TUM

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Date of Birth: 12 August 1999
Place of Birth: Munich, Germany
Citizenship: German



EDUCATION

Technical University of Munich (TUM) — Munich, Germany
Master of Science (M.Sc.) – Mechanical Engineering — 10/2025 – Present

Munich University of Applied Sciences (HM) — Munich, Germany
Bachelor of Science (B.Sc.) – Mechanical Engineering — 03/2020 – 2025

- Specialization: Intelligent Machines and Mechatronics.
- Bachelor's Thesis: Market Study and Analysis of Modern Inverter Software: Current Parameter Acquisition Methods and Future Developments.
- Bachelor's Thesis Grade: **1.0 (Excellent – Highest German Grade)**.

Landshut University of Applied Sciences — Landshut, Germany
Bachelor's Studies in Mechanical Engineering — 10/2019 – 03/2020

- Transferred to Munich University of Applied Sciences after completing the first semester.

DOGA Koleji — Istanbul, Turkey
Science-Oriented High School — 09/2014 – 06/2018

- Focus on Mathematics, Physics, Chemistry and Biology.
- Graduated as the top student of the graduating class.

PROFESSIONAL EXPERIENCE

Webasto Thermo & Comfort SE — Gilching, Germany
Engineering Intern – Application Engineering FH — 03/2023 – 07/2023

- Disassembled, commissioned and tested automotive heating systems in test vehicles.
- Conducted electrical measurements, including electric current measurements.
- Performed, evaluated and documented technical experiments and measurement series.
- Full-time engineering internship (40 hours per week).

Cimtas Steel — Bursa, Turkey
Pre-Internship – Manufacturing Engineering — 06/2018 – 08/2018

- Gained hands-on experience in industrial metal processing and manufacturing.
- Applied machining, turning, welding and metal forming techniques.
- Performed technical measurements and quality control activities.

ENGINEERING PROJECTS

Product Development – Rail Power Systems GmbH — 10/2024 – 01/2025
Industrial Project – Development of a Specialized Tool

- Developed an engineering solution addressing a real-world industrial application.
- Responsible for the mechanical design of a specialized adjustment tool.
- Collaborated within a four-member product development team.

Development of a Marine Gearbox — 03/2024 – 07/2024
Munich University of Applied Sciences – Gearbox Development

- Development and mechanical design of a gearbox concept for a marine propulsion system.
- Application of engineering principles in gearbox design and power transmission systems.
- Collaboration within a five-member engineering development team.

Development of an Autonomous Cleaning Robot 10/2023 – 01/2024

Robotics, Product Development and Entrepreneurship

- Developed an autonomous robotic solution for automated cleaning in equestrian facilities.
- Applied camera-based object detection and artificial intelligence to identify and remove horse manure.
- Served as one of three product developers within an eight-member interdisciplinary project team.

AI-Based Weather Forecasting 10/2023 – 01/2024

Artificial Intelligence and Machine Learning

- Developed a machine learning model for weather forecasting using extensive datasets.
- Collaborated within a two-member project team.

Machine Learning for Driving Behavior Analysis 10/2023 – 01/2024

Automotive Engineering and Data-Driven Modeling

- Developed a machine learning model for estimating vehicle driving behavior.
- Utilized driving data collected from a vehicle simulation environment.
- Collaborated within a three-member project team.

UNIVERSITY LABORATORY EXPERIENCE

Conventional and Additive Manufacturing of Polymers 2026

Technical University of Munich (TUM) – Chair of Medical Materials and Implants

- Applied conventional polymer processing techniques, including compounding, extrusion, thermoforming and compression molding.
- Designed components for additive manufacturing using Fused Deposition Modeling (FDM) and Digital Light Processing (DLP).
- Characterized polymeric materials using tensile testing, hardness testing, optical microscopy and scanning electron microscopy (SEM).
- Investigated surface modification techniques using open-air plasma technology.
- Participated in an industrial visit to DELO Industrial Adhesives, including hands-on exercises with heat-curing and light-curing adhesive systems.

Ergonomics Laboratory – Human Factors Engineering 2026

Technical University of Munich (TUM) – Chair of Ergonomics

- Conducted six laboratory experiments in occupational science, biomechanics and environmental ergonomics.
- Applied objective measurement and assessment methods to investigate human-centered factors.
- Experimentally investigated physiological, environmental and cognitive factors.

Mechanical Engineering Laboratory (MTP) 2023 – 2024

Munich University of Applied Sciences (HM) – Department of Mechanical, Automotive and Aeronautical Engineering

- Completed eight mechanical engineering laboratory practicals involving technical experiments and test benches.
- Electrical Drive Systems: Investigated DC motors, three-phase induction motors, variable-frequency drives and four-quadrant drive systems.
- Transmission Engineering: Experimentally investigated the efficiency, power losses, bearing losses and gear mesh losses of a GETRAG automotive transmission.
- Thermal Turbomachinery: Investigated gas turbine performance, efficiency, fuel consumption and emissions.
- Fluid Machinery: Experimentally investigated blowers and Venturi nozzles, including pressure distributions and fluid flow characteristics.
- Machine Tool Engineering: CNC machine tools, machine acceptance testing, laser axis measurement, ballbar testing, squareness measurement and tool measurement.
- Fuel Cell Technology: PEM fuel cells, performance characteristic curves and efficiency analysis.
- Acquired, processed and interpreted experimental measurement data and prepared technical laboratory reports.

Hydraulic Machinery Laboratory Bachelor's Studies

Munich University of Applied Sciences (HM) – Department of Mechanical, Automotive and Aeronautical Engineering

- Practical investigation of hydraulic machinery as part of the Mechanical Engineering degree program.

TECHNICAL SKILLS

CAD and Mechanical Design: Solid Edge, KISSsoft, MDESIGN

Simulation and Modeling: MATLAB, Simulink

Programming and Microcontrollers: C, Arduino

Artificial Intelligence: Machine Learning, Data-Driven Modeling, Camera-Based Object Detection

Electrical Drive Systems: DC Motors, Three-Phase Induction Motors, Variable-Frequency Drives, Four-Quadrant Drives, Inverter Technology

Mechanical Drive Systems: Transmission Engineering, Efficiency Analysis, Power Loss Calculations

Energy and Fluid Engineering: PEM Fuel Cells, Gas Turbines, Hydraulic Machinery, Blowers, Venturi Nozzles

Manufacturing Engineering: Machining, Turning, Milling, Welding, Metal Forming

Additive Manufacturing: 3D Printing, FDM, DLP, Design for Additive Manufacturing (DfAM)

Polymer Engineering: Polymer Processing, Compounding, Extrusion, Thermoforming, Surface Modification

Materials Testing: Tensile Testing, Hardness Testing, Optical Microscopy, Scanning Electron Microscopy (SEM)

Joining Technology: Industrial Adhesive Bonding, Heat-Curing and Light-Curing Adhesive Systems

Machine Tool Engineering: CNC Machine Tools, Machine Acceptance Testing, Laser Axis Measurement, Ballbar Diagnostics

Testing and Measurement Engineering: Test Bench Operation, Characteristic Curve Measurement, Electrical Measurements, Experimental Data Analysis, Quality Control, Technical Documentation

Human Factors and Ergonomics: Biomechanics, Occupational Science, Environmental Ergonomics, Measurement and Assessment Methods

Office Applications: Microsoft Office

LANGUAGES

German: Full Professional Proficiency, German-Taught University Degree

English: C1 – Professional Working Proficiency, PTE Academic

Turkish: Native Proficiency

CERTIFICATIONS

DELO Academy – Industrial Adhesive Technology 04/2026

DELO Industrial Adhesives, Windach, Germany

- Certificate of participation in an industrial visit as part of the TUM polymer laboratory on 9 April 2026.
- Fundamentals of industrial adhesives, engineering applications and practical exercises involving heat-curing and light-curing adhesive systems.

PTE Academic – English C1 04/2025

Pearson Education

TestDaF – German C1 02/2019

TestDaF Institute

German Language Certificate – C1 02/2019

DID Deutsch-Institut

t-MBA Educational Model 04/2018

DOGA Schools – Pearson Assured

ADDITIONAL INFORMATION

Driving License: Category B

Interests: Automotive Engineering, Motorsports, Technology, Traveling and Literature