

KAAN ALTAŞ

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EDUCATION

Koç University

Feb 2026 – Jun 2027 (expected)

M.Sc. in Chemical & Biological Engineering

İstanbul, Türkiye

GPA: 3.90/4.00

Advisors: Prof. Alper Uzun, Assoc. Prof. Erdal Aydın

Koç University

Sep 2021 – Feb 2026

B.Sc. in Chemical & Biological Engineering and Computer Engineering (Double Major) İstanbul, Türkiye

CGPA: 3.55/4.00, Magna Cum Laude

Tracks: Energy and Process Systems Engineering, Artificial Intelligence

Kocaeli Science High School

Sep 2017 – Jun 2021

Kocaeli, Türkiye

RESEARCH INTERESTS

Process Systems Engineering, Stochastic Optimization, Mixed-Integer Programming, Machine Learning, Deep Learning, Large Language Models, Energy Systems Design and Control

RESEARCH EXPERIENCE

Graduate Researcher

Feb 2026 – Present

Koç University, Department of Chemical & Biological Engineering

İstanbul, Türkiye

Advisors: Prof. Alper Uzun, Assoc. Prof. Erdal Aydın

- Research at the intersection of catalysis, machine learning and mathematical optimization.
- Machine learning models that link catalyst design to catalyst performance, brought into optimization-based process decisions.

Undergraduate Researcher

Oct 2024 – Feb 2026

Koç University, Department of Chemical & Biological Engineering

İstanbul, Türkiye

Advisor: Assoc. Prof. Erdal Aydın

- Developed two-stage stochastic MILP models for Power-to-X systems integrating renewable energy sources with water-food-energy nexus considerations.
- Conducted research on uncertainty modeling of renewable energy-driven production systems.
- The work became a first-author paper in the *International Journal of Hydrogen Energy* (2026).

PUBLICATIONS

- [1] Altaş, K., Tekkeşin, B.K., Aydın, E., Türkay, M. “Design & Optimization of a Hydrogen Integrated Water–Energy–Food Nexus Under Uncertainty.” *International Journal of Hydrogen Energy*, vol. 252, 2026, art. 156061. doi:10.1016/j.ijhydene.2026.156061

CONFERENCES & PRESENTATIONS

- [1] Altaş, K., Tekkeşin, B.K., Aydın, E. “Stochastic Optimization of Water–Energy Networks with Renewable Energy Integration.” *MaCKiE 2025 – International Conference on Mathematics in (Bio/Food) Chemical Kinetics and Engineering*, İzmir, Türkiye, September 2025. (Oral Presentation)

COURSES TAUGHT & SERVICES TO STUDENTS

Teaching Assistant, CHBI 491: Senior Design Project

Feb 2026 – Present

Koç University, Department of Chemical & Biological Engineering

İstanbul, Türkiye

- Lead regular sessions with senior capstone teams and guide their process design projects through to the final report.
- Give feedback on their technical work, reports and presentations, and grade the deliverables.

Student Representative, Chemical & Biological Engineering Department

2024 – 2025

- Served as a bridge between students and faculty, voicing academic and administrative concerns.

- Collaborated with professors and department heads to improve course structures and student engagement.

PROFESSIONAL POSITIONS

Project Assistant Jul 2025 – Present
ClimAlign (Part-time) İstanbul, Türkiye

- Build calculation tools for emissions, energy use and financed-emissions assessments.
- Review energy efficiency audits and compile the findings into technical reports and seminar materials.
- Prepare technical sections of tender proposals for international financial institutions.
- Review sector guidelines and assessment tools for completeness and consistency across sectors.

Production IT Intern Jul 2024 – Aug 2024
Hyundai Assan Otomotiv San. ve Tic. A.Ş. Kocaeli, Türkiye

- Combined PyTorch and Gurobi to sequence car bodies and cut paint color changeovers.
- Worked with IT, chemical and industrial engineers on production planning data.

Process Engineering Intern Aug 2023 – Sep 2023
Türkiye Petrol Rafinerileri A.Ş. (TÜPRAŞ) Kocaeli, Türkiye

- Studied the crude distillation and product separation units at the İzmit refinery, following how feed, operating conditions and energy use connect across the units.
- Took part in daily operations with the process engineers, with hands-on experience of plant equipment and unit performance data.

WORKSHOPS, SEMINARS & PROFESSIONAL ACTIVITIES

Attendee, PSE for SPEED Webinar 2025 Oct 2025
PSEforSPEED Company Limited

- Topic: “Hybrid AI for Augmented PSE Techniques: Integrating AI & Human Intelligence.”

Data Annotator (Volunteer), under Prof. Deniz Yüret May 2024 – Sep 2024
Koç University, Artificial Intelligence Laboratory

- Volunteered for English-to-Turkish prompt translation and evaluation using Label Studio to improve Turkish benchmarks for large language models.

HONORS, AWARDS & FELLOWSHIPS

- **Fulbright PhD Scholarship Candidate, 2027–2028** – For doctoral study in the United States. 2026
- **1st Prize, Venture Sprint** – ETH Zurich summer school; our computer vision project for detecting landmines in drone and satellite imagery won first place. 2026
- **Koç University Office of Sustainability Award** – Inaugural award for a renewable-powered green ammonia plant with no direct CO₂ emissions. 2025
- **Vehbi Koç Scholar** – Awarded for maintaining a semester GPA of 3.75 or higher. Multiple semesters
- **Dean’s Honor Roll** – For semester GPA of 3.3 or higher. Multiple semesters

SELECTED PROJECTS

- **Green Ammonia Production** – Design and economic analysis of a green ammonia plant. Among engineering projects, awarded by Office of Sustainability for its sustainable decarbonization roadmap.
- **ForeWatt** – Production-grade electricity market forecasting platform for the Turkish market, generating reliable 24-hour consumption and price forecasts under real operational constraints.

TECHNICAL SKILLS & LANGUAGES

Programming: Python, C, C#, C++, Java, JavaScript, TypeScript, Swift, L^AT_EX, Assembly, Shell

Tools & Frameworks: Gurobi, PyTorch, TensorFlow, Aspen HYSYS, Microsoft Office

Languages: Turkish (native), English (fluent; IELTS Academic Overall Band 7.0), German (beginner)

CERTIFICATES

- **Deep Learning Specialization** – DeepLearning.AI Oct 2026
- **Machine Learning Specialization** – DeepLearning.AI, Stanford University Oct 2026
- **Google Advanced Data Analytics Specialization** – Google Jul 2025
- **Google Project Management Specialization** – Google Jul 2025