

Emir Yusuf Akan

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SUMMARY

I am a MSc mathematics student interested in **algebraic topology** with my advisor as Assoc. Prof. Özgün Ünlü.

EXPERIENCE

2nd Term Bachelor's Thesis: Dold-Kan Correspondence and Eilenberg-MacLane Spaces

2025-2026 Spring Term

Awarded Grade: **A**. I have studied basics of simplicial homotopy theory and necessary tools of homological algebra, then studied and elucidated the proof of the Dold-Kan category equivalence. In the second part, I have applied Dold-Kan to Eilenberg-MacLane spaces, to derive a restricted homotopy uniqueness result.

1st Term Bachelor's Thesis: Introduction to the Euler Characteristic

2025-2026 Fall Term

Awarded Grade: **A**. In this senior project, I've studied the proof of the homotopy invariance of $\chi(X)$. Utilized topics are in singular homology, cellular homology, homological algebra, some manifold theory for results on degrees of certain maps.

Universität Göttingen, Internship

Summer 2025

Successfully completed an academic internship, studying the following: fundamental group, simplicial homology, and group (co)homology under supervision of Basak Kucuk (PhD in 2025, adv. Prof. Thomas Schick).

EDUCATION

2026 - 2028 MSc in Maths at **Bilkent University**

(GPA: $-/4.0$)

2022 - 2026 BSc in Maths at **Bilkent University**

(GPA: 3.2/4.0)

2018 - 2020 IB (EE in HL Physics)

(37/45 & A)

SCHOLARSHIPS & AWARDS

Monthly Stipend to High Ranking Mathematics Students.

2022-2026

TÜBİTAK - The Scientific and Technological Research Council of Turkey

TUBITAK 2224-D Grant: Programme for Supporting Participation in Scientific Education Activities Abroad

Summer 2025

3720 \$

MISC.

Philosophy & Humanities PHIL 401 Metaphysics course in Bilkent as my first philosophy course, successfully completed with the grade "A-", other humanities classes were completed with the grade "A".