

# Anıl Kamber

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## Education

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**University of California, San Diego**  
*Ph.D., Electrical and Computer Engineering*

September 2024 - Present  
*Advisor: Rahul Parhi*

**Boğaziçi University**  
*B.Sc., Electrical and Electronics Engineering*

**GPA : 3.90/4.0 (6<sup>th</sup> out of 88)**  
*October 2020 - June 2024*

**İzmir Fen Lisesi**

## Research Experience

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**Graduate Research Assistant**  
*Sparsity @UC San Diego*

January 2025 - Present  
*La Jolla, CA*

- Exploring the mysteries of deep networks.
- **Supervisor:** Rahul Parhi.

sparsity.ucsd.edu

**Researcher**  
*KUIS AI Center*

October 2024 - January 2025  
*Istanbul, Türkiye*

- I investigated the global identifiability of underdetermined polytopic matrix factorization.
- **Supervisor:** Alper T. Erdoğan.

ai.ku.edu.tr

**Undergraduate Researcher**  
*Volumetric Analysis and Visualization Group*

September 2023 - June 2024  
*Istanbul, Türkiye*

- My senior design project (bachelor's thesis) entitled *Blind Source Separation in Neuroscience* won the *Cenker Oden Senior Design Project Award*, which is the best undergraduate research award.
- **Supervisor:** Alper T. Erdoğan, Burak Acar.

vavlab.boun.edu.tr/people

**Undergraduate Researcher**  
*Boğaziçi Nanonetworking Research Group*

January 2022 - January 2024  
*Istanbul, Türkiye*

- I derived the channel response of molecular communication via diffusion in a three-dimensional half-space bounded by an infinite reflecting surface.
- As a result, my paper entitled *Half-Space Modeling with Reflecting Surface in Molecular Communication* was published in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*.
- **Supervisor:** Ali Emre Pusane, H. Birkan Yılmaz, Tuna Tuğcu.

**Algorithm Engineer Intern**  
*ASELSAN*

July 2023 - August 2023  
*Ankara, Turkiye*

- I investigated the integral transforms that can be employed during the preprocessing stage of machine learning models for automatic radar-signal classification.

aselsan.com/en

#### *Other Experience*

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**Graduate Teaching Assistant**  
*University of California, San Diego*

September 2025 - December 2025  
*La Jolla, CA*

- ECE 251C - Filter Banks and Wavelets.

**Embedded Systems Engineer**  
*FINRIX*

August 2022 - September 2022  
*Istanbul, Turkiye*

- I designed a prototype data extractor on an FPGA that captures the desired part of stock market data, which flows as a 32-bit stream aligned to a synchronous clock. (VHDL, C, C++)

finrix.io/

#### *Publications and Preprints*

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- [1] **Kamber, Anil** and R. Parhi, "Sharpness of minima in deep matrix factorization: Exact expressions," *arXiv preprint arXiv:2509.25783*, 2025.
- [2] **Kamber, Anil** and R. Parhi, "Hessian spectrum is constant across minimizers in regularized deep scalar factorization," in *OPT 2025: Optimization for Machine Learning*.
- [3] **Kamber, Anil**, H. B. Yilmaz, A. E. Pusane, and T. Tugcu, "Half-space modeling with reflecting surface in molecular communication," *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, 2024.

#### *Honors and Scholarships*

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- *Electrical and Computer Engineering Departmental Fellowship*, UC San Diego, September 2024 - June 2025.
- *Cenker Oden Senior Design Project Award*, June 2024.
- *2205 - Undergraduate Scholarship Program*, TUBITAK (Scientific and Technological Research Council of Turkiye), September 2022 - January 2024.
- *2247-C - Intern Researcher Scholarship Program*, TUBITAK, October 2022 - April 2023.
- Turkish National University Entrance Exam (YKS), **446<sup>th</sup>** place among 2.6 million participants, June 2019.
- Turkish National High School Entrance Exam (TEOG), placed in the top **0.03 %** among 1.6 million participants, June 2015.