Anıl Kamber

Jacobs Hall, Room 4516
9736 Engineers Ln
La Jolla, CA 92092

e-mail: akamber@ucsd.edu
LinkedIn: anlkamber
GitHub: anlkamber3
Google Scholar: Anil Kamber

Education

University of California, San Diego   September 2024 - Present
Ph.D., Electrical and Computer Engineering

Boğaziçi University   **GPA : 3.90/4.0 (6th out of 88)**
B.Sc., Electrical and Electronics Engineering   *October 2020 - June 2024*

İzmir Fen Lisesi

Research Experience

Researcher   October 2024 - Present
KUIS AI Center   *Istanbul, Turkiye*

- A probabilistic examination of the identifiability of Polytopic Matrix Factorization in underdetermined cases.
- **Supervisor:** Alper T. Erdoğan.

ai.ku.edu.tr

Undergraduate Researcher   September 2023 - June 2024
Volumetric Analysis and Visualization Group   *Istanbul, Turkiye*

- 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

Undergraduate Researcher   January 2022 - January 2024
Boğaziçi Nanonetworking Research Group   *Istanbul, Turkiye*

- Derivation of a molecular communication via diffusion channel response in a 3-D half-space with an infinite reflecting surface.
- As a result, my paper, entitled *Half-Space Modeling with Reflecting Surface in Molecular Communication*, is published in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*.
- **Supervisor:** Ali Emre Pusane, H. Birkan Yılmaz, Tuna Tuğcu.

nrg.boun.edu.tr

Publications

1) **A. Kamber**, H. Birkan Yilmaz, A. E. Pusane and T. Tugcu, "Half-Space Modeling With Reflecting Surface in Molecular Communication," in *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, vol. 10, no. 3, pp. 433-441, Sept. 2024

Projects

Blind Source Separation in Neuroscience

In this project, we brought **Polytopic Matrix Factorization**, which provides "*identifiable polytopes*" to extend feature attributes of latent factors, to the neuroscience realm to extract latent vector components associated with distinct subnetworks. In the absence of ground truths for the sources expected to be separated from EEG signals, we used the best-fitted dipoles as ground truths and residual variance as the error metric.

Bacteriophage Isolation Against Facultative Pathogen Bacillus Subtilis

Due to the abuse of antibiotics, antibiotic-resistant bacteria have emerged in today's world. As an alternative, phage therapy relies on the use of naturally-occurring phages to infect and lyse bacteria at the site of infection. In this project, phages of *Bacillus Subtilis*, which is a facultative pathogen bacteria species, are isolated from their natural habitat and characterized. (2017)

Honors and Scholarships

- *Electrical and Computer Engineering Department 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), **446th *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.