LUCINE OGANESIAN

PhD Student, Electrical and Computer Engineering, University of Southern California
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Education

In progress PhD, Electrical and Computer Engineering. University of Southern California. Advisor: Dr. Maryam Shanechi

May 2016 BS, Electrical Engineering and Computer Sciences. University of California, Berkeley

Positions

2020 - Present **Graduate Research Assistant, University of Southern California**
Advisor: Dr. Maryam Shanechi

2016 - 2020 **Software Engineer, Google**

2015 - 2016 **Research Assistant, UC Berkeley**
Advisors: Dr. Fatma Deniz, Dr. Alexander G. Huth, and Dr. Jack L. Gallant

2014 **REU Intern, University of Pittsburgh**
Advisors: Dr. Sanjeev Khanna and Dr. Matthew A. Smith

Honors and Awards

2022 NDSEG Fellowship, Honorable Mention, *Department of Defense.*

2020 Rose Hills Foundation Fellowship, *University of Southern California.*

2020 WiSE Graduate Top-off Fellowship, *University of Southern California.*

2016 Highest Honors in Electrical Engineering and Computer Sciences, *UC Berkeley*.

2014 REU Intern Funding (uPNC), *Center for the Neural Basis of Cognition, Carnegie Mellon University*.

2012-2016 Regents' and Chancellor's Scholar, *UC Berkeley.*

Grants / Research Funding

2016 Regents' and Chancellor's Research Fellowship, *Regents' and Chancellor's Association, UC Berkeley*. $600

2015 Summer Undergraduate Research Fellowship, *The Rose Hills Foundation, UC Berkeley*. $5,000

Manuscripts

[under review] **Oganesian, LL.,** Shanechi, MM. Next-generation brain-machine interfaces for neuropsychiatric disorders.

[under review] **Oganesian, LL.,** Sani, OG., Shanechi, MM. Modeling the shared dynamics between Poisson and Gaussian processes.

Conference Presentations

Oganesian, LL., Sani, OG., Shanechi, MM. 2023. Shared dynamical modeling of population

neural spiking activity and continuous behaviors. IEEE Engineering in Medicine and Biology Conference (EMBC), 45th Annual Meeting, Sydney, Australia.

Oganesian, LL., Sani, OG., Shanechi, MM. 2022. Modeling the shared subspace between Poisson neural population activity and continuous behavior signals. Society for Neuroscience, 51st Annual Meeting, San Diego, CA.

Oganesian, LL., Sani, OG., Shanechi, MM. 2021. Learning behaviorally relevant dynamics in population spiking activity with Poisson preferential subspace identification (Poisson-PSID). Society for Neuroscience, 50th Annual Meeting (Virtual).

Oganesian, L., Deniz (née Imamoglu), F., Huth, AG., Gallant, JL. 2016. Natural Acoustic Stimuli Reveal Tonotopic Frequency Maps in Primary Auditory Cortex. Stanford Undergraduate Psychology Conference, Stanford, CA.

Oganesian, L., Deniz (née Imamoglu), F., Gallant, JL. 2015. Low-level Feature Representation of Music in the Human Brain. SURF Research Conference, Berkeley, CA.

Oganesian, L., Khanna, S., Cecala, AL., Smith, M. 2014. Rapid Visual Decision Making in Humans. REU Research Symposium, Pittsburgh, PA.

Patents

- Co-author on seven patents (tenure at Google): US10375632B1, US10863469B2, US10746819B2, US10830572B2, US10754419B2, US20210349541A1 (pending), US20210333897A1 (pending).

Invited Talks

Research Seminars

2023 *USC Machine Learning Center-AI Foundation for Science Event: ML over Bagels*

Teaching and Mentorship

Teaching Positions

Year	School	Course Title	Course Code	Role
Spring 2023	University of Southern California	Estimation Theory	EE563	Teaching Assistant
Spring 2016	UC Berkeley	Digital Signal Processing	EE123	Course Reader
Fall 2013	UC Berkeley	Structure and Interpretation of Computer Programs	CS61A	Lab Assistant
Summer 2013	Academic Talent Development Program (ATDP), UC Berkeley	Introduction to Robotics	N/A	Co-Instructor

Other

2014 - 2016 Math Tutor, *Student Learning Center (slc.berkeley.edu), UC Berkeley*

Community Service

To the profession

2023 **Mini-symposium Organizer**, *Dynamical modeling for neurotechnology applications*. IEEE Engineering in Medicine and Biology Conference (EMBC), 45th Annual Meeting, Sydney, Australia

Journal Reviewing Nature, Nature Neuroscience, Nature Biotechnology

Outreach

2016 - Present **PiE Alumni Scholarship Committee**, *UC Berkeley Pioneers in Engineering (pioneers.berkeley.edu).*

2016 - Present **Scholarship Applicant Reviewer**, *Cal Alumni Association Scholarships (alumni.berkeley.edu/get-involved/scholarships).*

2016 - Present **RCSA Alumni Mentorship Program**, *UC Berkeley*.

2021 - Present **WiSE Graduate Mentor**, *University of Southern California (wise.usc.edu).*

2021 - 2022 **Letters to a Pre-Scientist Mentor,** *Letters to a Pre-Scientist.*

2022 **WiSE Stem Bytes Seminar Speaker**, *University of Southern California.*

2017 **Meet a Scientist Event**, *East Bay YMCA, Oakland, CA*.

2013 - 2014 **PiE Prep Program Director**, *UC Berkeley Pioneers in Engineering.*

Workshop Participation

2023 Summer Workshop on the Dynamic Brain, *Allen Institute*

Skills & Relevant Coursework

Programming: Python (Advanced), C++/Java/MATLAB (Proficient), C (Familiar)
Operating Systems: Ubuntu/OSX (Advanced), Android (Proficient)
Frameworks/Libraries: Scientific Python (Advanced), PyTorch/JAX/Tensorflow/gRPC/ROS/rviz (Familiar)
Other Software: Inkscape (Proficient), Unity/Krita (Familiar)
Languages: English (fluent), Armenian (fluent speaking; proficient reading and writing)

Linear Algebra (UC Berkeley/USC)
Probability and Discrete Math (UCB/USC)
Convex Optimization Models (UCB)
Introduction to Artificial Intelligence (UCB)
Introduction to Machine Learning (UCB)
Signals and Systems (UCB)
Digital Signal Processing (UCB)
Principles of MRI (UCB)
Linear Feedback Control Systems (UCB)
Data Structures (UCB)
Algorithms (UCB)
Cognitive Neuroscience (UCB)
Statistical Signal Processing (Stanford)
Linear System Theory (USC)
Estimation Theory (USC)
Random Processes (UCB/USC)
Dynamics of Representation Learning (USC)
Mathematics of High-Dimensional Data (USC)

Affiliations

2023-Present	Institute of Electrical and Electronics Engineers, IEEE (Student Member)
2021-Present	Society for Neuroscience (Student Member)