

# Alexander Fung

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Pre-doctoral researcher interested in mathematical principles of low-level neural computations.

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## EDUCATION

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2019 – 2023      **B.S.** in Electrical Engineering & Computer Science      UNIVERSITY OF CALIFORNIA, BERKELEY  
**B.A.** in Molecular & Cellular Biology  
GPA: 3.99

## PROFESSIONAL EXPERIENCE

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2023 – present      Research Assistant      MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
*Fedorenko Lab — McGovern Institute for Brain Research*  
• Computational and neuroimaging approaches investigating the neural basis of language.

2022 – 2023      Undergraduate Researcher      BERKELEY LAB  
*Bouchard Lab — Lawrence Berkeley National Laboratory*  
• Learning stimulus-evoked response properties in rat auditory cortex.

2021 – 2023      Undergraduate Researcher      UNIVERSITY OF CALIFORNIA, BERKELEY  
*Song Lab — Department of Electrical Engineering & Computer Science*  
• Characterization of protein folding patterns, unsupervised protein structure prediction.

## HONORS & AWARDS

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2023      NSF Graduate Research Fellowship\*      NATIONAL SCIENCE FOUNDATION  
\*Declined.

## PUBLICATIONS

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### Papers

1. **Fung, A.\***, Koehl, A.\*, Jagota, M., Song, Y. (2022). The Impact of Protein Dynamics on Residue-Residue Co-evolution and Contact Prediction. Preprint.
2. Dudukovich, R., Gormley, D., Kancharla, S., Wagner, K., Short, R., Brooks, D., Fantl, J., Janardhanan, S., **Fung, A.** (2022). Towards the Development of a Multi-Agent Cognitive Networking System for the Lunar Environment. *IEEE Journal of Radio Frequency Identification*.
3. Koehl, A.\*, Jagota, M.\*, Erdmann-Pham, D.\*, **Fung, A.**, Song, Y. (2021). Transferability of Geometric Patterns from Protein Self-Interactions to Protein-Ligand Interactions. *Pacific Symposium on Biocomputing*.

### Posters

4. **Fung, A.\***, Zhuang, C.\*, Piantadosi, S., Andreas, J., Fedorenko, E. (2024). Word-Order Error Detection Helps Data-Efficient Language Models Learn Syntax [Poster Presentation]. *Cognitive Computational Neuroscience 2024*.
5. Kean, H., **Fung, A.**, Rule, J., Tenenbaum, J., Piantadosi, S., Fedorenko, E. (2024). Deductive and Inductive Processing Dissociate in the Human Brain [Poster Presentation]. *Cognitive Computational Neuroscience 2024*.

\*Equal contribution.