

# Adrian Dar T. Serapio

adtserapio@gmail.com • +1 (510) 280-4092 • Google Scholar • LinkedIn

## Research Interests

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My research bridges NLP, medical imaging, and clinical informatics, focusing on the design, evaluation, and clinical translation of large language and vision-language models for radiology.

## Education

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**UC Berkeley-UCSF**, Berkeley & San Francisco, CA 2025–Present  
Ph.D. in Bioengineering

**UC Berkeley**, Berkeley, CA 2020–2024  
B.S. in Electrical Engineering and Computer Sciences

## Research Experience

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**Staff Research Associate**, Sohn Lab — UCSF 2024–2025

- Led research on large language and vision-language models for radiology, including a 20-radiologist reader study benchmarking LLM-generated enriched imaging indications against clinicians, and an evaluation of how model sensitivity to clinical histories impacts chest X-ray report generation
- Advised 5 undergraduate students on research topics including vision-language embedding models for cardiothoracic imaging cohort curation and patient-friendly vision-language foundation models to answer lung cancer screening questions

**Undergraduate Researcher**, Sohn Lab — UCSF 2021–2024

- Led a study that fine-tuned an open-source large language model that summarizes radiological report findings to generate impressions and conducted a clinical reader performance study with 5 radiologists to evaluate model performance
- Developed a reader performance study platform that evaluated the performance of vision transformers for content-based image retrieval of chest X-ray and chest CT scan images

**Undergraduate Researcher**, Data-Intensive Development Lab — UC Berkeley 2020-2021

- Designed choropleth maps to visualize machine learning-based wealth estimates and bubble plots to illustrate parity in these estimates for Togo, as part of a Nature cover article

## Work Experience

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**Software Development Engineering Intern**, Amazon Summer 2023

- Developed an observability pipeline in order to attribute costs to internal services in the Ring Data Management group, generating daily and monthly cost estimates by aggregating internal time-series logs

## Publications

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- [2] **Serapio, A.\***, Chen, T.L.\*, Tangsombatvisit, B., Fields, B.K.K., Yu, Y., Guo, Y., Kim, S.K., Miao, B.Y., Sushil, M., Hess, C.P., Majumdar, S., & Sohn, J.H. Radiologically Relevant Clinical History Summarization with Large Language Models: A Multi-Reader Performance Study. *In submission*.
- [1] **Serapio, A.**, Chaudhari, G., Savage, C.H., Lee, Y.J., Vella, M., Sridhar, S., Schroeder, J.L., Liu, J., Yala, A., & Sohn, J.H. An Open-Source Fine-Tuned Large Language Model for Radiological Impression Generation: A Multi-Reader Performance Study. *BMC Medical Imaging*, 24:254, 2024. doi:10.1186/s12880-024-01435-w

## Technical Skills

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Programming: Python, SQL, JavaScript, Java, C  
Tools and Frameworks: PyTorch, Hugging Face, Numpy, Pandas, Matplotlib, React, Node.js, Next.js, Git, Linux, AWS, HPC/Slurm