Adrian Dar T. Serapio

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Research Interests

Translating frontier AI into routine clinical workflows through the development, evaluation, and prospective deployment of multimodal generative and agentic systems, with a focus on **clinical context-grounded radiological interpretation** and **opportunistic cancer risk screening**.

Education

UC Berkeley-UCSF, Berkeley, CA & San Francisco, CA 2025–Present
Ph.D. in Bioengineering; Designated Emphasis in Computational Precision Health
Advisors: Yang Yang, Kang Wang, Jae Ho Sohn

UC Berkeley, Berkeley, CA 2020–2024
B.S. in Electrical Engineering and Computer Sciences, GPA: 3.78/4.00

Research Experience

Graduate Researcher, Yang Lab & Sohn Lab — UCSF 2025–Present

- Leading prospective clinical deployment and validation of **RadContext**, an LLM-based system that synthesizes radiologically relevant clinical context from EHR data, generating **58,000+ histories for 57 radiologists**, with 87.5% of radiologist ratings reporting improved clinical context.
- Leading a retrospective silent trial of a **two-stage multimodal opportunistic screening system for pancreatic cancer (PDAC)** that pairs EHR risk stratification with CT-based detection; the highest-risk 5% of patients captured **29% of PDACs** (**5.8× enrichment** over random selection), cutting false-alarm workups per cancer detected from **24.7 to 4.1**.

Staff Research Associate, Sohn Lab — UCSF 2024–2025

- Led the technical and methodological development of an LLM system for radiologically relevant clinical history summarization; in a blinded **20-radiologist reader study**, LLM-generated histories were more comprehensive and factual than clinician indications and **ranked first among four history sources in 44% of cases**, outranking clinician- and radiologist-written histories.

Undergraduate Researcher, Sohn Lab — UCSF 2021–2024

- Led development of an **open-source fine-tuned LLM for radiology impression generation**, training and evaluating the model on **370,000+** and **60,000+ CT, MRI, and ultrasound reports** from UCSF Medical Center and Zuckerberg San Francisco General, respectively, with a 5-attending-radiologist reader study assessing clinical accuracy, grammatical accuracy, and stylistic quality.

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

- Developed geospatial and statistical visualizations of machine-learning-based wealth estimates in Togo featured in a *Nature* cover article.

Publications

Clinical Journal Articles

[J4] **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. (2026). Radiologically relevant clinical history summarization with large language models: A multireader performance study. *Radiology, 320*(2), e253238. doi:10.1148/radiol.253238 *(Accompanied by an invited editorial; featured as a* Radiology In Training *Tweetorial and in AuntMinnie.)*

[J3] Nowroozi, A., Bondarenko, M., **Serapio, A.**, Schnitzler, T., Brar, S. S., & Sohn, J. H. (2026). Large language models in radiologic numerical tasks: A thorough evaluation and error analysis. *Journal of Imaging Informatics in Medicine*. doi:10.1007/s10278-025-01824-9

[J2] Yu, H., Bondarenko, M., Nowroozi, A., Lee, Y. J., **Serapio, A.**, Kaveti, P., & Sohn, J. H. (2026). Pre-imaging clinical factors associated with cardiac MR image quality using large language model-enabled data extraction. *Journal of Magnetic Resonance Imaging, 64*(2), 565–578. doi:10.1002/jmri.70336

[J1] **Serapio, A.**, Chaudhari, G., Savage, C., Lee, Y. J., Vella, M., Sridhar, S., Schroeder, J. L., Liu, J., Yala, A., & Sohn, J. H. (2024). An open-source fine-tuned large language model for radiological impression generation: A multi-reader performance study. *BMC Medical Imaging, 24*(1), 254. doi:10.1186/s12880-024-01435-w

CS Conference Workshop Papers

[W4] **Serapio, A.**, Hess, M., Bondarenko, M., Sakiyama, K., Brar, S. S., Hawkins, J. R., Olson, M. P., Yang, Y., Majumdar, S., & Sohn, J. H. (2026). Prospective pilot deployment of a large language model system for radiologically relevant clinical history summarization. *NeurIPS 2026 Workshop on GenAI for Health (GenAI4Health)*, Sydney, Australia.

[W3] Bondarenko, M., Brar, S. S., Sakiyama, K., **Serapio, A.**, Hess, M., Ye, M., Kim, S. K., & Sohn, J. H. (2026). Post-deployment reliability monitoring of clinically deployed LLM-generated radiology indications. *NeurIPS 2026 Workshop on GenAI for Health (GenAI4Health)*, Sydney, Australia.

[W2] Chen, N.†, **Serapio, A.**, Gu, H., Lee, E., Wang, K., & Yang, Y. (2026). CohortFlow: A steerable clinical cohort curation agent with localized semantic correction. *NeurIPS 2026 Workshop on GenAI for Health (GenAI4Health)*, Sydney, Australia.

[W1] **Serapio, A.**, Ramsundar, B., & Subramanian, S. (2026). Evaluating long-range temporal structure in foundation model-based forecasts of heartbeat dynamics. *ICML 2026 Workshop (SD4H)*. doi:10.64898/2026.05.25.727760

Preprints

[P1] Sakiyama, K.†, **Serapio, A.**, Ye, M., Nowroozi, A., Bondarenko, M., Wu, Y. F., Qi, K., Liu, J., Vella, M., Yu, Y., Schnitzler, T., Rustagi, A. S., & Sohn, J. H. (2026). Planner-executor style multimodal agentic system to answer patient questions in lung cancer screening CT. *medRxiv*.

Conference Abstracts

[A3] **Serapio, A.**, Ye, M., Jaurigue, M., Gu, H., Yang, Y., & Wang, K. (2026). Two-stage multimodal AI-assisted opportunistic screening system for pancreatic cancer: A retrospective silent trial. *UC Pancreatic Cancer Consortium (UCPCC)*. Lightning talk and poster.

[A2] **Serapio, A.**, Savage, C., Chaudhari, G., Lee, Y. J., Vella, M., Sridhar, S., Schroeder, J. L., Liu, J., Yala, A., & Sohn, J. H. (2023). Development and clinical validation of a radiological impression summarization system with large language models. *Radiological Society of North America (RSNA) 109th Scientific Assembly and Annual Meeting*, Chicago, IL. Scientific poster.

[A1] **Serapio, A.**, Thakrar, A., Jayasuriya, N., & Sohn, J. H. (2022). A hands-on guide to designing cloud-based web platforms with radiological applications. *Radiological Society of North America (RSNA) 108th Scientific Assembly and Annual Meeting*, Chicago, IL. Education exhibit.

*Equal contribution. †Mentee-led work (undergraduate mentee as first author).

Mentoring

Research Mentor, Yang Lab & Sohn Lab — UCSF 2025–Present

Mentored students on various clinical AI projects, each leading to a publication or presentation:

- **Koharu Sakiyama:** first-author paper on a planner-executor multimodal agentic system for lung cancer screening CT, in revision at *IEEE Journal of Biomedical and Health Informatics* [P1].
- **Neil Chen:** first-author NeurIPS 2026 GenAI4Health workshop paper on steerable clinical cohort curation agents [W2].
- **Evan Lee:** co-author on clinical cohort curation agents [W2].
- **Matthew Jaurigue:** co-author on two-stage multimodal opportunistic pancreatic cancer screening [A3].

Honors & Awards

- **UCSF Pancreas Center Travel Award**, UC Pancreatic Cancer Consortium Symposium, UCLA 2026
- **Eta Kappa Nu (HKN)**, IEEE Honor Society, Mu Chapter, UC Berkeley 2021

Industry Experience

Software Development Engineering Intern, Amazon Summer 2023

- Developed an observability pipeline for Ring Data Management that aggregated time-series infrastructure logs to attribute daily and monthly costs across internal services.