Adrit Rao

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Summary

High school senior with strong track record of conducting digital health and computer vision research with Stanford faculty and researchers. Co-authored 16 peer-reviewed research publications with 13 as first author. Served as teaching assistant for Stanford's CS342 course. Received several honors, including Apple's WWDC scholarship at age 12. Presented at several prestigious research conferences. Passionate about contributing to society by innovating at the intersection of technology and healthcare.

Education

Senior, *Palo Alto High School*, Graduating 2025, Palo Alto, CA 2021–Present

Experience

Medical AI Researcher, *Stanford University School of Medicine, Vascular Surgery Division, Stanford, CA* Dec 2020–present

- Researched and developed clinical AI algorithms and apps, focused on digital health and explainable AI.
- First-authored 12 peer-reviewed research publications.
- Presented at prestigious medical AI and computer vision conferences (MICCAI, CVPR, ICCV, and others).
- Developed **AutoABI** app for peripheral artery disease detection (currently patent pending) – validated in a multi-site Stanford clinical study.
- Created the **A4** aortic aneurysm detection pipeline (web deployed) – currently undergoing FDA 510(k) clearance with Bunkerhill Inc.
- Collaborated with Adobe, Lunit Inc., KAIST and other leaders for computer vision studies (e.g., **IMIL** framework).
- Working closely with AI researchers, clinicians, and residents at Stanford.

Team Member, *Digital Health Group, Stanford Mussallem Center for Biodesign, Stanford, CA* June 2023 – present

- Developed an open-source surgical video streaming app for Apple's Vision Pro.
- Contributed open-source features to the **Stanford Spezi ecosystem**, enhancing the data pipeline, machine learning tools, and cloud integration.
- Contributed to IRB-approved clinical study design and **LLMonFHIR** app development.

Teaching Assistant, *CS342 Course ("Building for Digital Health"), Stanford Mussallem Center for Biodesign, Stanford, CA* Jan 2024 – present

- Guided Stanford CS and medical students in iOS app development using Spezi.
- Led code reviews, hosted weekly office hours, and oversaw student sub-team.
- Managed the development of **NourishNavigator**, ensuring timely app deployment from the students.

Founder and Teacher, *Aretech Inc., Palo Alto, CA* Sept 2020 – present

- Developed and deployed four community-centered mobile apps.
- Partnered with Get Involved Foundation – supported by City of Palo Alto.
- Led **L2 Code 4 Kids** initiative for teaching AI/app development to middle/high school students across the U.S.
- Generated $2,000+ (via teaching) and donated to community service initiatives, supporting more than 50 students.

- Gave a talk on my app/AI development teaching experience to Santa Clara Valley County Office of Education (SCOEE) at a teacher AI workshop.
- Invited to attend Apple's WWDC and Google I/O.

Board Member, *Get Involved Foundation (GIF), Palo Alto, CA* Jan 2021 – present

- Developed community service tracking app for students.
- Worked with other board members to enhance youth engagement through outreach programs.
- Received 3 President's Volunteer Service Gold Awards for 409 hours of service.

Associate Member, *Sigma Xi, The Scientific Research Honor Society* July 2022 – present

- Inducted into society for top presentation (AutoABI and clinical study) at Sigma Xi student research showcase.
- Member of *at-large* chapter.
- Actively read and learn from member news and discussion boards.

Honors

3rd Place Grand Award, Regeneron International Science and Engineering Fair (ISEF) (International) 2022

Top Presenter at Student Research Showcase Math/CS and Inducted, Sigma Xi Research Honors Society (International) 2022

Best Student Paper Award, International MICCAI Society Conference (Applications of Medical AI) (International) 2022

1st Place Winner, Congressional App Challenge District CA-18 (National) 2023

2nd Place Oral Presentation, Department of Defense's Junior Science and Humanities Symposium (NJSHS) (National) 2023

Apple's Worldwide Developers Conference (WWDC) Scholar (International) 2020, 2021

Gold President's Volunteer Service Award (409 hours) (National) 2021, 2022, 2023

1st Place, California Science and Engineering Fair (CSEF) Computational Systems: Medical (State) 2022

Bay Area Inno Under 25 Award - Silicon Valley Business Journal (Regional) 2023

Oral Research Presentations

Sigma Xi Student Research Showcase, Sigma Xi Research Honors Society (International) 2022

JHU Global Health Leaders Conference, Johns Hopkins University, Global Health Leaders Conference (International) 2023

MICCAI Society CLIP Workshop, Medical Image Computing and Computer Assisted Intervention (MICCAI) Society, Clinical Image-Based Procedures Workshop (International) 2021

MICCAI Society AMAI Workshop, Medical Image Computing and Computer Assisted Intervention (MICCAI) Society, Applications of Medical AI Workshop (International) 2022

ICCV CVAMD, IEEE/CVF International Conference on Computer Vision, Computer Vision for Automated Medical Diagnosis Workshop (International) 2021, 2023

ICCV MIA COVID-19, IEEE/CVF International Conference on Computer Vision, Medical Imaging with Deep Learning for COVID-19 Workshop (International) 2021

IEEE MWSCAS, Institute of Electrical and Electronics Engineers (IEEE), Midwest Symposium on Circuits and Systems (National) 2021

IEEE World AIoT Congress, Institute of Electrical and Electronics Engineers (IEEE), World Artificial Intelligence and Internet of Things Congress (International) 2021

NJSHS, National Junior Science and Humanities Symposium (NJSHS) (CA/Virginia) (National) 2023

CLS/Amgen BioGENEius, California Life Sciences (CLS) and Amgen BioGENEius Challenge (National) 2022, 2023

Media Coverage

Google's People of AI Podcast: Google's People of AI Podcast 2024

Silicon Valley Business Journal: Article in Silicon Valley Business Journal 2023

KRON4: KRON4 News feature 2024

TEDx Talk: "tAPPing into innovation" 2023

NBC: NBC News segment 2024

Newsweek: Featured in Newsweek 2021

Inside Edition: Interview on Inside Edition 2021

Indian Express: Article in Indian Express 2024

Publications

1. IMIL: Interactive Medical Image Learning Framework 2024
Adrit Rao, Andrea Fisher, Ken Chang, John Christopher Panagides, Katherine McNamara, Joon-Young Lee, Oliver Aalami
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, pp. 5241–5250.

2. Studying the Effects of Self-Attention for Medical Image Analysis 2021
Adrit Rao, Jongchan Park, Sanghyun Woo, Joon-Young Lee, Oliver Aalami
Proceedings of the IEEE/CVF International Conference on Computer Vision, pp. 3416–3425.

3. A Standardized, Scalable, and Automated Open-source CT AAA Diameter Measurement Tool Using Deep Learning 2024
Adrit Rao, Louis Blankemeier, Pauline Berens, Arash Fereydooni, Akshay Chaudhari, Oliver Aalami
Journal of Vascular Surgery, Vol. 79, No. 6, pp. e249, Elsevier.

4. Studying the Impact of Augmentations on Medical Confidence Calibration 2023
Adrit Rao, Joon-Young Lee, Oliver Aalami
Proceedings of the IEEE/CVF International Conference on Computer Vision, pp. 2462–2472.

5. Development of the Next Generation Hand-Held Doppler with Waveform Phasicity Predictive Capabilities Using Deep Learning 2021
Adrit Rao, Akshay Chaudhari, Oliver Aalami
2021 MICCAI Clinical Image-Based Procedures, pp. 56–67, Springer, Cham.

6. Towards improving the visual explainability of artificial intelligence in the clinical setting 2023
Adrit Rao, Oliver Aalami
BMC Digital Health, Vol. 1, No. 1, pp. 23, Springer Nature BioMed Central London.

7. AutoABI: Feasibility of a Smartphone-Enabled ABI and Waveform Phasicity Prediction Model Using Machine Learning for Rapid Point-of-Care Limb Perfusion Assessment 2021
Adrit Rao, Kevin G Battenfield, Arash Fereydooni, Oliver Aalami
2021 Vascular Annual Meeting (VAM), Journal of Vascular Surgery, Vol. 74, No. 3, pp. e182, Elsevier.

8. The Value of Visual Attention for COVID-19 Classification in CT Scans 2021
Adrit Rao, Jongchan Park, Oliver Aalami
2021 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW), pp. 433–438, IEEE.

9. Waveform phasicity prediction from arterial sounds through spectrogram analysis using convolutional neural networks for limb perfusion assessment 2021
Adrit Rao, Kevin Battenfield, Oliver Aalami
2021 IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), pp. 462–466, IEEE.

10. Preliminary Clinical Validation Results of a Deep Learning Approach for Ankle Brachial Index Prediction in Noncompressible Tibial Vessels 2022
Arash Fereydooni, **Adrit Rao**, Akshay Chaudhari, Kevin Battenfield, Oliver Aalami
Journal of Vascular Surgery, Vol. 76, No. 4, pp. e85, Elsevier.

11. Increasing the Accessibility of Peripheral Artery Disease Screening with Deep Learning 2022
Adrit Rao, Oliver Aalami
2022 MICCAI International Workshop on Applications of Medical Artificial Intelligence, pp. 1–7, Springer, Cham.

12. LLM on FHIR–Demystifying Health Records 2024
Paul Schmiedmayer, **Adrit Rao**, Philipp Zagar, Vishnu Ravi, Aydin Zahedivash, Arash Fereydooni, Oliver Aalami
arXiv preprint arXiv:2402.01711.

13. Comp2Comp: Open-Source Body Composition Assessment on Computed Tomography 2023
Louis Blankemeier, Malte Jensen, Eduardo Pontes Reis, Juan Manuel Zambrano Chaves, **Adrit Rao**, Sally Yao, Pauline Margaret Berens, Andrew Wentland, Bhanushree Bahl, Kushboo Arora, et al.
Medical Imaging with Deep Learning, short paper track.

14. Accessible artificial intelligence for ophthalmologists 2022
Adrit Rao, Harvey A Fishman
Nature Eye Journal, January 2022, Vol. 36, No. 1, pp. 1–1, Nature Publishing Group.

15. Computationally Efficient Deep Learning Applied to Glaucoma Eye Drop Bottle Detection for Increasing Medication Compliance in Low-Vision Patients 2022
Adrit Rao, Harvey Fishman
Investigative Ophthalmology & Visual Science, Vol. 63, No. 7, pp. 2044–A0485, The Association for Research in Vision and Ophthalmology.

16. OCTAI: Smartphone-based Optical Coherence Tomography Image Analysis System 2021
Adrit Rao, Harvey A Fishman
2021 IEEE World AI IoT Congress (AIIoT), pp. 0072–0076, IEEE, Seattle, Washington, USA.