DA "DAVID" OUYANG, MD

CURRICULUM VITAE
Current as of May 23, 2024

PERSONAL STATEMENT

My clinical, operational, and research activities are centered around *organizing and leveraging large scale clinical data, particularly through the development and deployment of artificial intelligence (AI) in healthcare.* I am an AHA and NIH funded researcher who have developed AI models in medical imaging and conducted the first blinded RCT of AI in cardiology, resulting in 112 publications including first- and senior- author publications in *Nature, Nature Medicine, NEJM AI, Circulation,* and *JAMA Cardiology.* This research has been operationalized in forward deployments of AI in the enterprise clinical imaging systems, FDA clearance of the AI technology, and funded collaborations with industry around disease screening. Our group leverages large scale clinical data through data science and identify gaps in performance, lapses in care, and drive outcome driven interventions to improve quality and efficiency of care.

CURRENT POSITIONS

09/20 – Present	Staff Physician, Department of Cardiology Cedars-Sinai Medical Center
01/23 – Present	Assistant Professor, Clinical Scholar Track Cedars-Sinai Medical Center

PROFESSIONAL CONTACT INFORMATION

Cedars-Sinai Medical Center
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Los Angeles, CA 90048
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EDUCATION

08/07– 05/10	Bachelor of Arts (BA), Statistics Bachelor of Science (BS), Biochemistry Magna cum Laude, University Trustees Scholar Rice University
08/10 – 06/14	Doctor of Medicine (MD), Clinical and Translational Research Pathway

	University of California, San Francisco (UCSF)
Internship:	
07/14 – 06/17	Internship and Residency in Internal Medicine Stanford Society of Physician Scholars, Stanford University
Fellowship:	
07/17 – 07/20	Fellowship in Cardiovascular Medicine, Stanford University
01/19 – 08/20	Postdoctoral Fellow, Computer Science and Biomedical Data Science, Stanford University

LICENSURE

9/25/15 - 3/31/25	California Medical License # A138463

BOARD CERTIFICATIONS

2017 - Present	Internal Medicine
2020 - Present	Cardiovascular Disease
2020 - Present	Echocardiography

PROFESSIONAL ACTIVITIES

Cedars-Sinai Committee Services:

01/21 - Present	Member, Search Committee for Division Chief of Cardiac Critical Care Cedars-Sinai Medical Center
03/21 - Present	Member, Point-of-Care Ultrasound Committee Cedars-Sinai Medical Center
04/24 – Present	Member, Artificial Intelligence Physician Advisory Council Cedars-Sinai Medical Center

Other Committee Services:

2020 - 2021	NeurIPS 2020 Machine Learning 4 Health (ML4H) Program Committee Member
2022 - Present	Amyloidosis Research Consortium Artificial Intelligence Committee

	Committee Member
2022 - Present	American Society of Echocardiography ImageGuideEcho Registry Committee Co-Chair
2023 - Present	American Society of Echocardiography Artificial Intelligence Task Force
2023 - Present	American College of Cardiology CV Imaging Workgroup on Multimodality Imaging and Artificial Intelligence
2023 - 2023	NIH NHLBI Clinical Informatics and Digital Health (CIDH) Ad Hoc Member
2024 - 2024	NIH NHLBI Clinical Integrative Cardiovascular and Hematological Sciences Study Section (CCHS) Ad Hoc Member

Professional Associations/Memberships:
AHA, American Heart Association, Member
ACC, American College of Cardiology, FACC
ASE, American Society of Echocardiography, FASE

Editorial Services:

2018 – Present	JACC EP; Ad-hoc reviewer
2018 – Present	PLOS One; Ad-hoc reviewer
2018 – Present	Circulation: Cardiovascular Quality & Outcomes; Ad-hoc reviewer
2019 – Present	Circulation; Ad-hoc reviewer
2019 – Present	BMJ Open; Ad-hoc reviewer
2019 – Present	JAMA Cardiology; Ad-hoc reviewer
2019 – Present	Neural Information Processing Systems (NeurIPS); Ad-hoc reviewer
2020 – Present	Lancet Digital Medicine; Ad-hoc reviewer
2020 – Present	New England Journal of Medicine; Ad-hoc reviewer
2020 – Present	JACC; Ad-hoc reviewer
2020 – Present	JACC Cardiovascular Imaging; Ad-hoc reviewer
2020 – Present	JACC CardioOncology; Ad-hoc Reviewer
2020 – Present	JASE; Ad-hoc Reviewer
2020 – Present	Cell; Ad-hoc Reviewer
2020 – Present	Circulation: Genomics and Precision Medicine; Ad-hoc Reviewer
2020 – Present	Nature Medicine; Ad-hoc Reviewer

2021 – Present	ACC.21 Imaging Abstracts Reviewer
2021 – Present	Nature; Ad-hoc Reviewer
2022 – 2023	Circulation: Cardiovascular Quality and Outcomes, Associate Editor
2022 – Present	Annals of Thoracic Surgery, Editorial Board
2023 – Present	Journal of the American Society of Echocardiography, Editorial Board
2023 – Present	NEJM AI, Deputy Editor

Mentoring:

07/17 - Present	Alan Kwan, Staff Physician I, Department of Cardiology
07/18 – 6/2022	Neal Yuan, Assistant Clinical Professor of Medicine, Division of Cardiology, University of California, San Francisco (UCSF)
07/20 – 6/2023	Nathan Stein, Cardiology Fellow
10/20 – 1/2022	John Theurer, Researcher
01/21 - Present	Grant Duffy, Researcher
01/21 - Present	Bryan He, PhD in Computer Science, Stanford
05/21 - Present	Milos Vukadinovic, PhD in Bioengineering, UCLA
09/21 – 6/2023	Lily Stern, Cardiology Fellow at CSMC
09/21 – 6/2022	Diana Melo, Cardiology Fellow at Stanford
10/21 - Present	Kai Christensen, Researcher
01/22 - Present	Ray Wu, PhD in Computer Science, Caltech
05/22 - Present	Yu Sun, PostDoc in Computer Science, Caltech
08/23 - Present	I-Min Chiu, MD, PhD, PostDoc
10/23 - Present	Yuki Sakashi, MD, PostDoc
05/23 – Present	Son Doung, MD, Ped Cardiology Fellow, Mt. Sinai

HONORS AND SPECIAL AWARDS

2007 Rice University Trustees Distinguished Scholarship
2007 Rice University Century Scholarship for Research
2008 Welch Foundation Undergraduate Summer Research Fellowship
2009 Joe Hamner Scholarship for Excellence in Engineering
2009 USA Today All-USA College Academic 3rd Team
2009 Barry M. Goldwater Scholar for Excellence in Research
2009 Amgen Scholar at the University of California San Francisco
2010 Phi Beta Kappa
2012 UCSF Dean's Prize in Research Finalist
2014 The Permanente Medical Group Medical Student Scholarship
2018 Circulation Cardiovascular Quality and Outcomes Top Reviewer
2019 American Society of Echocardiography Arthur Weyman Young Investigator Award Competition Finalist
2019 American College of Cardiology Foundation / Merck Research Fellowship
2020 Edwin Alderman Award for Excellence in Clinical Research
2022 Early Career Clinical Research Symbiont Award

RESEARCH AWARDS AND GRANTS

Current Grants
04/24-03/29
R01 HL1573426 (PI: D. Ouyang)
Deep Learning Based Phenotyping and Outcomes Prediction for Valvular Heart Disease
Role: Principal Investigator (25% Effort)
Funding: $4,075,527

04/21-03/23
R00 HL157421 NIH NHLBI Pathway to Independence Award
Deep Learning Assessment of the Right Ventricle: Function, Etiology, and Prognosis
Role: Principal Investigator
Annual Funding: $747,000

01/23 – 12/23
Alexion Sponsored Research Grant
Machine Learning for Detection of Systemic Amyloidosis
Role: Principal Investigator
Annual Funding: $351,457

03/22 – 02/26
R01 HL131532-06A1 (PI: S. Cheng)
Cardiac microstructure and the immune-inflammatory response to SARS-CoV-2
Role: Co-Investigator (5% Effort)
Funding: $2,975,696

02/23 – 01/26
R01 HL16584001 (PI: C. Albert)
PRE-DETERMINE: Advancing Sudden Arrhythmic Death Prediction in Coronary Artery Disease in the Absence of Severe Systolic Dysfunction
Role: Co-Investigator (7.5% Effort)
Annual Funding $1,538,200

01/24 – 12/24
AHA Second Century Implementation Science Grant (PI: P. Cheng)
Role: Co-Investigator
Funding: $400,000

01/24 – 12/25
High-Throughput Precision Identification of Cardiac Amyloidosis in a Diverse Population
Role: Contact Principal Investigator
Funding: $750,000

Past Grants

01/23 – 12/23
Radiological Society of North America
Medical Imaging Data Resource Center Grant on Covid Cardiovascular Diagnostics
Role: Principal Investigator
Annual Funding: $150,000

04/19-03/23
K99 HL157421-01: NIH NHLBI Pathway to Independence Award
Deep Learning Assessment of the Right Ventricle: Function, Etiology, and Prognosis
Role: Principal Investigator
Annual Funding: $154,780 / year

11/11-11/12
UCSF Mobile Health Consultation Award Exploring Image Processing Using Mobile Applications. UCSF Clinical and Translational Science Institute (CTSI)
Role: Principal Investigator
Annual funding: $3,000

02/12-02/13
T1 Catalyst Mobile Health Translational Project Award Mobile Image-Processing for the Identification of Pills. UCSF Clinical and Translational Science Institute (CTSI)
Role: Principal Investigator
Annual funding: $30,000

11/18-11/19
Translational Research and Applied Medicine Pilot Grant
Deep Learning to Identify Systemic Phenotypes and Unsupervised Learning of Clinical Measurements in Echocardiography
Role: Principal Investigator
Annual funding: $20,000

06/19-06/20
American College of Cardiology Foundation /Merck Research Fellowship
Big Data Analysis and Machine Learning in Cardiovascular Imaging
Role: Principal Investigator
Annual funding: $70,000

07/19-07/20
Translational Research and Applied Medicine Pilot Grant
Deep Learning to Identify Systemic Phenotypes and Unsupervised Learning of Clinical Measurements in Echocardiography
Role: Principal Investigator
Annual funding: $20,000

07/19-07/20
Stanford Artificial Intelligence in Medicine and Imaging Center Seed Grant Computer Vision Prediction of Cardiovascular Outcomes through Echo
Role: Co-Principal Investigator
Principal Investigator: Dr. James Zou
Annual funding: $73,524

11/19-11/20
Stanford Cardiovascular Institute and Maternal Child Health Institute Seed Grant
Developing Novel Computational Methods for the Early Detection of Right Heart Failure and Pulmonary Hypertension in the Pediatric and Adult Populations
Role: Principal Investigator
Annual funding: $20,000

11/19-11/20
Stanford Cardiovascular Institute Seed Grant
Precision Approach to Ventricular Mass: Image-Based Differentiation of Hypertrophic Cardiomyopathy, Amyloidosis, and Phenocopies
Role: Principal Investigator
Annual funding: $20,000

01/20-01/21
Kirschstein NRSA for Training of Postdoctoral Fellows (F32HL149298-01)
Applying Machine Learning in Echocardiography to Identify and Predict Subclinical Phenotypes of Cardiovascular Disease "*Awarded but declined forACC/Merck*
Role: Principal Investigator
Annual funding: $214,266

INVITED LECTURES AND PRESENTATIONS:

National and International Presentations:

1. "Big Data Analysis and Machine Learning in Cardiovascular Imaging" American College of Cardiology 2019 Scientific Sessions, March 17, 2019. New Orleans, LA

2. "Deep Learning to Identify Systemic Phenotypes and Supervised Learning of Clinical Measurements" American Society of Echocardiography 2019 Scientific Sessions,2019 Arthur E. Weyman Young Investigator's Award Competition. June 24, 2019. Portland, OR.

3. "Deep Learning and Data Science to Enhance Echocardiography" University of Pennsylvania Cardiovascular Imaging Conference, November 19, 2019. Philadelphia, Pennsylvania

4. "Deep Learning and Data Science to Enhance Echocardiography" Universityof Washington Cardiovascular Imaging Conference, January 31, 2020. Seattle, Washington

5. "Deep Learning and Data Science to Enhance Echocardiography" Johns Hopkins Cardiovascular Imaging Conference, February 19, 2020. Baltimore, Maryland

6. Deep Learning and Data Science to Enhance Echocardiography" CornellCardiovascular Imaging Conference, February 21, 2020. New York, New York

7. "Deep Learning and Data Science to Enhance Echocardiography" Northwestern Cardiovascular Imaging Conference, February 21, 2020. Chicago, Illinois

8. "AI/ML: Hype vs. Hope" American Heart Association Scientific Sessions. November 18, 2020

9. "Deep Learning and Data Science to Enhance Echocardiography" Siemens Research Presentation, October 23, 2020

10. AI in Echocardiography. High Country Nuclear Medicine Conference. March 6, 2022.
11. "Cardiovascular AI: Development to Deployment". City of Hope. Los Angeles, CA. March 28, 2022.

12. "Cardiovascular AI: Development to Deployment". Michigan Integrated Center of Health Analytics & Medical Prediction. Michigan. April 15, 2022.

13. "AI of Cardiac Imaging to Guide Therapy". Heart Rhythm. San Francisco, CA. April 29, 2022.

14. "Deep Learning and AI for Heart Rhythm Disorders". Heart Rhythm. San Francisco, CA. April 29, 2022.

15. "Clinical Applications of Artificial Intelligence: Clinical Decision Support". AIMed Global Summit. San Francisco, CA. May 2022

16. "Automated Pipelines for Disease Detection and Characterization". American Society of Echocardiography (ASE 2022). Seattle, WA. June 13, 2022.

17. "Deployment of AI in the Echocardiography Lab". BrainX. Zoom. July 13, 2022.

18. "Cardiovascular AI: Development to Deployment". Stanford Division of Bioinformatics Research April 21, 2022.

19. "EchoNet-RCT: Blinded, Randomized Controlled Trial of Sonographer vs. Artificial Intelligence Assessment of Cardiac Function". **Late Breaking Clinical Trial,** European Society of Cardiology Congress, Barcelona, Spain. August 27, 2022.

20. "AI in Echocardiography". Economic Development Meeting with Delegation from Baden Wurttemberg, Germany. Los Angeles, CA. October 6, 2022.

21. “Cardiovascular AI: Development to Deployment”. University of California San Francisco **Cardiology Grand Rounds**, San Francisco, CA. October 26, 2022.

22. “Debate Point of View: Artificial Intelligence will Replace the Echocardiographer in the Near Future”. EchoAsia, Singapore, Singapore. October 28, 2022.

23. “AI: The Next Frontier”. South African Heart Society Congress, October 29, 2022.

24. “Designing and Building AI-ready Data and Infrastructure”. Second Annual AI+HEALTH Online Conference. December 7, 2022,

25. “How Should We Apply AI in Echo? 2023 and Beyond.” CVI’s 15th Annual Echo Update. Philadelphia, PA. January 15, 2023. **Keynote Talk**

26. "AI in Cardiovascular Medicine--What's Here and What's Yet to Come". 20th Annual ACC Oregon Cardiovascular Symposium. Portland, OR. April 14th/15th, 2023.

27. “Cardiovascular AI: Development to Deployment”. University of California San Francisco Fresno **Cardiology Grand Rounds,** Fresno, CA. May 16, 2023.

28. “Clinical Trials of Artificial Intelligence”. Symposium on Artificial Intelligence for Learning Health Systems. Rio Grande, Puerto Rico, May 12, 2023.

29. “Practical Discussion in Deployment of AI in Cardiology.” Stanford Cardiology Grand Rounds, Palo Alto, CA. June 15, 2023.

30. “Precision Phenotyping of Echocardiography”. KSE AI Research Summer Symposium 2023, Seoul Korea, June 16, 2023.

31. “Clinical Trials of AI in Cardiology”. Apple Workshop on Machine Learning in Healthcare. June 21, 2023.

32. “AI: Tips for Datamining Echo Reports and EMR”. American Society of Echocardiography. National Harbor, MD, June 23, 2023.

33. “Development of Cardiovascular AI in Echocardiography”. Japanese Society of Echocardiography. EchoKobe. Kobe, July 22, 2023.

34. “Cardiovascular AI for Amyloidosis Screening”. Alexion Pharmaceuticals, Boston, MA, August 24, 2023.

35. “Development to Deployment of AI for Echocardiography”. Stony Brook University **Cardiology Grand Rounds**, Virtual/New York. September 21, 2023.

36. “Development to Deployment of Cardiovascular AI”. Providence St. Vincent, **Bryant**

Family Heart Lectureship. Portland, Oregon, November 2, 2023.

37. "Development to Deployment of Cardiovascular AI". Vanderbilt Medical Center, **Cardiology Grand Rounds.** Nashville, Tennessee, February 15, 2024.

38. "Development to Deployment of Cardiovascular AI". Weill Cornell - NYP, **Institute of Artificial Intelligence in Digital Health.** New York, New York, March 13, 2024.

39. "Development to Deployment of Cardiovascular AI". Paoli Hospital, **Medicine Grand Rounds,** Paoli, Pennsylvania, March 20, 2024.

Regional and Extramural Local Presentations:

1. An EPIC Use of Time. Internal Medicine Residency Noon Conference, November 30, 2015. Stanford University, Palo Alto.

2. Outcomes Research using the Electronic Medical Record System. Bay AreaR User Group, February 9, 2016. Thermo Fisher Scientific, South San Francisco.

3. Residency in 16 Graphs: Data Visualization in Medicine. Internal Medicine Residency Senior Talk, March 12, 2017. Stanford University, Palo Alto.

4. Residency in 16 Graphs: Data Visualization in Medicine. Internal Medicine Residency Senior Talk, March 12, 2017. Stanford University, Palo Alto.

5. Beyond Traditional Data Streams: Analysis of Organic Datasets in Healthcare. Biomedical Informatics Division Research in Progress, October 26, 2017.Stanford Center for Biomedical Informatics Research, Palo Alto.

6. Big Data Analysis and Machine Learning in Cardiovascular Imaging. Translational Research and Applied Medicine Annual Research Symposium, June 11,2019. Stanford University, Palo Alto

7. Big Data Analysis and Machine Learning in Cardiovascular Imaging. Stanford Cardiovascular Medicine Grand Rounds, September 6, 2019. Stanford University, Palo Alto

8. Deep Learning and Data Science to Enhance Echocardiography. Stanford Cardiovascular Medicine Grand Rounds, January 16, 2020. Palo Alto, California
9. Democratizing Medical AI with Shared Datasets. Stanford AIMI Symposium. August 5, 2020

10. Data Science, Artificial Intelligence, and Echocardiography. Los Angeles Echocardiography Society. December 2, 2020

11. Applications of AI in Cardiology. Heart Lab, Stanford University, March 17, 2021

12. Machine Learning Applications in Cardiovascular Imaging. ACC Precision Medicine, April 16, 2021. Zoom.

13. Improving Clinical Precision with Artificial Intelligence. Stanford AIMI Symposium. August 5, 2021.

14. Cardiovascular AI: Development to Deployment. Medical College of Wisconsin Cardiology Grand Rounds. February 17, 2022.

15. Cardiovascular AI: Development to Deployment. Rutgers Cardiology Grand Rounds. March 7, 2022.

16. AI in Healthcare. El Camino Hospital CME Grand Rounds. March 8, 2022.

17. "Cardiovascular AI: Development to Deployment." CTSI K Scholars Society Seminar. Los Angeles. March 15, 2022.

18. "Cardiovascular AI: Development to Deployment". California Institute of Technology. Pasadena, CA. April 6, 2022.

19. "Cardiovascular AI: Development to Deployment". Stanford University. Stanford, CA. April 21, 2022.

20. "AI applications in Echocardiography". BrainX. Virtual. July 13, 2022

Cedars-Sinai Presentations

1. Cardiovascular AI: Development to Deployment. Cedars-Sinai Smidt Heart Institute Cardiology Grand Rounds. February 1, 2022.

2. Cardiovascular AI: Development to Deployment. Cedars-Sinai Medical Center Medicine Grand Rounds. October 28, 2022.

3. "Development to Deployment of Cardiovascular AI". Cedars-Sinai Medical Center Cardiac Surgery Grand Rounds. February 14, 2024

TEACHING ACTIVITIES:

2016 - 2020 Teaching Stanford Internal Medicine residents in Data Science, EHR data

	analysis, and Research Ethics
2020 – Present	Teaching Cedars-Sinai Cardiology fellows in Echocardiography
2020 – Present	Teaching Cedars-Sinai Cardiology fellows in Critical Care Cardiology
2020 – Present	Deep Learning and Artificial Intelligence in Medicine Forum Bi-weekly Virtual Meeting. Cedars-Sinai
2020 – Present	Machine Learning Journal Club Bi-weekly Virtual Meeting Cedars-Sinai

BIBLIOGRAPHY AND PUBLICATIONS:

Research Papers - Peer-Reviewed:

1. Englot DJ, **Ouyang D**, Garcia PA, Barbaro NM, Chang EF. Epilepsy surgery trends in the United States, 1990-2008. Neurology. 2012 Apr 17;78(16):1200-6. doi: 10.1212/WNL.0b013e318250d7ea. Epub 2012 Mar 21. PMID: 22442428; PMCID: PMC3324320.

2. Englot DJ, **Ouyang D**, Wang DD, Rolston JD, Garcia PA, Chang EF. Relationship between hospital surgical volume, lobectomy rates, and adverse perioperative events at US epilepsy centers. J Neurosurg. 2013 Jan;118(1):169-74. doi: 10.3171/2012.9.JNS12776. Epub 2012 Oct 26. PMID: 23101453.

3. **Ouyang D**, Yuan N, Sheu L, Lau G, Chen C, Lai CJ. Community health education at student-run clinics leads to sustained improvement in patients' hepatitis B knowledge. J Community Health. 2013 Jun;38(3):471-9. doi: 10.1007/s10900-012-9631-3. PMID: 23161212.

4. Wang DD, **Ouyang D**, Englot DJ, Rolston JD, Molinaro AM, Ward M, Chang EF. Trends in surgical treatment for trigeminal neuralgia in the United States of America from 1988 to 2008. J Clin Neurosci. 2013 Nov;20(11):1538-45. doi: 10.1016/j.jocn.2012.12.026. Epub 2013 Aug 7. PMID: 23932422.

5. **Ouyang D**, El-Sayed IH, Yom SS. National trends in surgery for sinonasal malignancy and the effect of hospital volume on short-term outcomes. Laryngoscope. 2014 Jul;124(7):1609-14. doi: 10.1002/lary.24578. Epub 2014 Feb 10. PMID: 24390781.

6. Rolston JD, **Ouyang D**, Englot DJ, Wang DD, Chang EF. National trends and complication rates for invasive extraoperative electrocorticography in the USA. J Clin Neurosci. 2015 May;22(5):823-7. doi: 10.1016/j.jocn.2014.12.002. Epub 2015 Feb 7. PMID: 25669117; PMCID: PMC5501272.

7. **Ouyang D**, Chen JH, Hom J, Chi J. Internal Medicine Resident Computer Usage: An Electronic Audit of an Inpatient Service. JAMA Intern Med. 2016 Feb;176(2):252-4. doi: 10.1001/jamainternmed.2015.6831. PMID: 26642261; PMCID: PMC5951167.

8. **Ouyang D**, Chen JH, Krishnan G, Hom J, Witteles R, Chi J. Patient Outcomes when Housestaff Exceed 80 Hours per Week. Am J Med. 2016 Sep;129(9):993-999.e1. doi: 10.1016/j.amjmed.2016.03.023. Epub 2016 Apr 18. PMID: 27103047; PMCID: PMC4996740.

9. Weiskopf K, Creighton D, Lew T, Caswell JL, **Ouyang D**, Shah AT, Hofmann LV, Neal JW, Telli ML. Acute, Unilateral Breast Toxicity From Gemcitabine in the Setting of Thoracic Inlet Obstruction. J Oncol Pract. 2016 Aug;12(8):763-4. doi: 10.1200/JOP.2016.014241. PMID: 27511721; PMCID: PMC5012631.

10. Sing D, **Ouyang D**, Hu SS. Gender Trends in Authorship of Spine-Related Academic Literature: A 38-Year Perspective. Vol 16, Issue 10, Supplement, S279-S280. 2016 Oct 1. DOI: https://doi.org/10.1016/j.spinee.2016.07.198

11. Gulati G, **Ouyang D**, Ha R, Banerjee D. Optimal timing of same-admission orthotopic heart transplantation after left ventricular assist device implantation. World J Cardiol. 2017 Feb 26;9(2):154-161. doi: 10.4330/wjc.v9.i2.154. PMID: 28289529; PMCID: PMC5329742.

12. Sing DC, Jain D, **Ouyang D**. Gender trends in authorship of spine-related academic literature-a 39-year perspective. Spine J. 2017 Nov;17(11):1749-1754. doi: 10.1016/j.spinee.2017.06.041. Epub 2017 Jul 1. PMID: 28673828.

13. **Ouyang D**, Sing D, Shah S, Harrington D, Rodriguez F. Gender Trends in Authorship of Cardiology Academic Literature - A 40-Year Perspective. 2018 Apr 5. doi.org/10.1161/circoutcomes.11.suppl_1.12. Circulation: Cardiovascular Quality and Outcomes. 2018;11: A12.

14. **Ouyang D**, Gulati G, Ha R, Banerjee D. Incidence of temporary mechanical circulatory support before heart transplantation and impact on post-transplant outcomes. J Heart Lung Transplant. 2018 Sep;37(9):1060-1066. doi: 10.1016/j.healun.2018.04.008. Epub 2018 Apr 26. PMID: 29907499.

15. **Ouyang D**, Tisdale R, Ashley E, Chi J, Chen JH. Acetaminophen or Tylenol? A Retrospective Analysis of Medication Digital Communication Practices. J Gen Intern Med. 2018 Aug;33(8):1218-1220. doi: 10.1007/s11606-018-4455-1. PMID: 29717410; PMCID: PMC6082214.

16. **Ouyang D**, Tisdale R, Cheng P, Chi J, Chen JH, Ashley E. What's in a Name? Factors That Influence the Usage of Generic Versus Trade Names for Cardiac Medications Among Healthcare Providers. Circ Cardiovasc Qual Outcomes. 2018 Aug;11(8):e004704. doi: 10.1161/CIRCOUTCOMES.118.004704. PMID: 30354370;

PMCID: PMC6497068.

17. Sing D, Vora M, Kuripla C, **Ouyang D**. Increasing female authorship of foot and ankle academic literature over 24 years. 2018 Sep 18. doi.org/10.1177/2473011418S00450

18. **Ouyang D**, Sing D, Shah S, Hu J, Duvernoy C, Harrington RA, Rodriguez F. Sex Disparities in Authorship Order of Cardiology Scientific Publications. Circ Cardiovasc Qual Outcomes. 2018 Dec;11(12):e005040. doi: 10.1161/CIRCOUTCOMES.118.005040. PMID: 30562072.

19. Wang JK, **Ouyang D**, Hom J, Chi J, Chen JH. Characterizing electronic health record usage patterns of inpatient medicine residents using event log data. PLoS One. 2019 Feb 6;14(2):e0205379. doi: 10.1371/journal.pone.0205379. PMID: 30726208; PMCID: PMC6364867.
20. **Ouyang D**, Harrington RA, Rodriguez F. Association Between Female Corresponding Authors and Female Co-Authors in Top Contemporary Cardiovascular Medicine Journals. Circulation. 2019 Feb 19;139(8):1127-1129. doi: 10.1161/CIRCULATIONAHA.118.037763. PMID: 30779644.

21. Tooley J, **Ouyang D**, Hadley D, Turakhia M, Wang P, Ashley E, Froelicher V, Perez M. Comparison of QT Interval Measurement Methods and Correction Formulas in Atrial Fibrillation. Am J Cardiol. 2019 Jun 1;123(11):1822-1827. doi: 10.1016/j.amjcard.2019.02.057. Epub 2019 Mar 13. PMID: 30961909.

22. Vora M, Kuripla C, **Ouyang D**, Sing DC. "Gender Trends in Authorship of Foot and Ankle Academic Literature Over 24 Years. J Foot Ankle Surg 2019 Jul 23, https://doi.org/10.1053/j.jfas.2019.01.002

23. **Ouyang D**, He B, Gorbhani A, Lungren MP, Ashley EA, Liang DH, Zou JY. "EchoNet-Dynamic: a Large New Cardiac Motion Video Data Resource for Medical Machine Learning". NeurIPS Machine Learning for Health Workshop December 5, 2019. https://douyang.github.io/NeuroIPS_2019_ML4H%20Workshop_Paper.pdf

24. Ghorbani A, **Ouyang D**, Abid A, He B, Chen JH, Harrington RA, Liang DH, Ashley EA, Zou JY. Deep learning interpretation of echocardiograms. NPJ Digit Med. 2020 Jan 24;3:10. doi: 10.1038/s41746-019-0216-8. PMID: 31993508; PMCID: PMC6981156.

25. Vranas KC, **Ouyang D**, Lin AL, Slatore CG, Sullivan DR, Kerlin MP, Liu KD, Baron RM, Calfee CS, Ware LB, Halpern SD, Matthay MA, Herridge MS, Mehta S, Rogers AJ. Gender Differences in Authorship of Critical Care Literature. Am J Respir Crit Care Med. 2020 Apr 1;201(7):840-847. doi: 10.1164/rccm.201910-1957OC. PMID: 31968182; PMCID: PMC7124723.

26. **Ouyang D**, He B, Ghorbani A, Yuan N, Ebinger J, Langlotz CP, Heidenreich PA,

Harrington RA, Liang DH, Ashley EA, Zou JY. Video-based AI for beat-to-beat assessment of cardiac function. Nature. 2020 Apr;580(7802):252-256. doi: 10.1038/s41586-020-2145-8. Epub 2020 Mar 25. PMID: 32269341.

27. Daneshjou R, He B, **Ouyang D**, Zou JY. How to evaluate deep learning for cancer diagnostics - factors and recommendations. Biochim Biophys Acta Rev Cancer. 2021 Apr;1875(2):188515. doi: 10.1016/j.bbcan.2021.188515. Epub 2021 Jan 26. PMID: 33513392; PMCID: PMC8068597.

28. Wu E, Wu K, Daneshjou R, **Ouyang D**, Ho DE, Zou J. How medical AI devices are evaluated: limitations and recommendations from an analysis of FDA approvals. Nature Medicine. 2021 Apr;27(4):582-584. doi: 10.1038/s41591-021-01312-x. PMID: 33820998.

29. Yuan N, Jain I, Rattehalli N, He B, Pollick C, Liang D, Heidenreich P, Zou J, Cheng S, **Ouyang D**. Systematic Quantification of Sources of Variation in Ejection Fraction Calculation Using Deep Learning. JACC Cardiovasc Imaging. 2021 Jul 8:S1936-878X(21)00508-8. doi: 10.1016/j.jcmg.2021.06.018. Epub ahead of print. PMID: 34274282.

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