CURRICULUM VITAE
1/10/2025

Joshua Jay Levy

CURRENT POSITION(S):

Sep 2023- Director of Digital Pathology Research
Cedars Sinai Medical Center

Sep 2023- Associate Director of Cedars Sinai AI Campus
Cedars Sinai Medical Center

Sep 2023- Research Scientist II
Cedars Sinai Medical Center

Sep 2023- Assistant Professor, Cedars Sinai Medical Center,
Department of Pathology and Laboratory Medicine

Sep 2023- Assistant Professor, Cedars Sinai Medical Center,
Department of Computational Biomedicine

Sep 2023- Adjunct Assistant Professor, Geisel School of Medicine at Dartmouth,
Department of Pathology and Laboratory Medicine

Sep 2023- Adjunct Assistant Professor, Geisel School of Medicine at Dartmouth,
Department of Dermatology

Sep 2023- Adjunct Assistant Professor, Geisel School of Medicine at Dartmouth,
Department of Epidemiology

May 2022 – Scientific Advisor, ViewsML, Hanover, NH

Aug 2021- Faculty, Geisel School of Medicine at Dartmouth,
Quantitative Biomedical Sciences, Hanover, NH

Oct 2020 – Data Scientist, Veterans Affairs Healthcare System, White River Junction, VT

Jan 2020 – Chief Technical Officer, ArcticAI, Hanover, NH

Jan 2019- Director of National EDIT AI Internship Program, Lebanon, NH

PROFESSIONAL CONTACT INFORMATION

Department of Pathology & Laboratory Medicine
Department of Computational Biomedicine
Cedars Sinai Medical Center
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West Hollywood, CA 90069
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GitHub: https://github.com/jlevy44

LinkedIn: https://www.linkedin.com/in/joshua-levy-87044913b/
ORCiD: https://orcid.org/0000-0001-8050-1291
Google Scholar: https://scholar.google.com/citations?user=vR39CWkAAAAJ
MyNCBI: https://www.ncbi.nlm.nih.gov/myncbi/1fgQvdpod0SEEc/bibliography/public/
eRA Commons Username: JJLEVY

EDUCATION:

2017 BS in Physics
University of California, Berkeley, CA
College of Letters & Sciences: Highest Distinction graduation (top 1%)

2021 PhD in Quantitative Biomedical Sciences (Data Science)
Dartmouth College, Geisel School of Medicine, Hanover, NH
Co-mentors: Brock C. Christensen PhD (Department of Epidemiology)
Louis J. Vaickus MD, PhD (Department of Pathology and Laboratory Medicine)

PREVIOUS POSITIONS:

Aug 2018-
Sep 2023 EDIT (Emerging Diagnostic and Investigative Technologies) Research Program
Editor, Co-Founder, Department of Pathology and Laboratory Medicine, DHMC.
Co-director of EDIT Machine Learning and Whole Genome Sequencing arms.

June 2021-
Sep 2023 Senior Research Scientist, Dartmouth Health, Lebanon, NH

June 2021-
Sep 2023 Assistant Professor, Geisel School of Medicine at Dartmouth,
Department of Pathology and Laboratory Medicine

June 2021-
Sep 2023 Assistant Professor, Geisel School of Medicine at Dartmouth,
Department of Dermatology

June 2021-
Sep 2023 Assistant Professor, Geisel School of Medicine at Dartmouth,
Department of Epidemiology

June 2022-
Sep 2023 Faculty, Dartmouth Hitchcock Medical Center,
Department of Medicine, Section of Radiation Oncology

Aug 2021 –
Sept 2023 Senior Research Scientist, Dartmouth Health, Lebanon, NH

Aug 2018 –
June 2021 Doctoral Student, Quantitative Biomedical Sciences, Dartmouth College Geisel School of Medicine, Lebanon, NH

May 2018 –
Aug 2018 Software Engineer Intern, Zymergen, Emeryville, CA

Jun 2016 –

May 2020 Software Developer, Lawrence Berkeley National Lab, Berkeley, CA

April 2015 – Jun 2016 Biomechanics Research Assistant, CiBER lab, Berkeley, CA

Jun 2017 – Dec 2017 Public Service Aide, San Francisco Department of Public Health: Tuberculosis Control, San Francisco, CA

PROFESSIONAL ACTIVITIES:

National Committee Services:

2024- Translational and Basic Science Research in Early Lesions (TBEL) NIH program Steering Committee Associate Member

2024- Translational and Basic Science Research in Early Lesions (TBEL) NIH program Digital Pathology Working Group Member

Cedars-Sinai Committee Services:

2024- Cedars Sinai Clinical Scholars Faculty Mentor
2023- Cedars Sinai Medical Center, Digital Pathology Interest Group
2023- Pathology Liaison to Cedars Sinai AI Campus
2023- Computational Biomedicine, Health AI PhD Program Curriculum Design Committee
2023- Cedars Pathology Informatics Steering Committee
2023- Cedars-Sinai Cancer Center Member, Los Angeles, CA
2023- Cedars-Sinai Cancer Prevention and Control Program Member, Los Angeles, CA
2024- Cedars Cancer CPC CRTEC Liaison, CSMC, Los Angeles, CA

Other Committee Services:

2023- Boston Bioinformatics Society, PTP, 10x Genomics, and Biomodal Scientific Advisor
2018-2021 Synergy Biostatistics Consultant, Geisel School of Medicine at Dartmouth, Hanover, NH
2022- DCC Trace Element Analysis Core Statistical/Machine Learning Consultant, Hanover, NH
2022- CQB COBRE Project Leader, Hanover, NH
2019-2021 Burroughs Wellcome Fund Fellow, Geisel School of Medicine at Dartmouth, Hanover, NH
2018-2020 Graduate Student Council Executive, Dartmouth College, Hanover, NH
2021- Quantitative Biomedical Sciences Ad-Hoc Reviewer Master's Admission Committee, Hanover, NH
2022- Cancer Population Sciences Program member, Dartmouth Cancer Center, Hanover, NH
2022- Biostatistics and Bioinformatics Shared Resource Faculty, Hanover, NH
2022- Bioinformatics Curriculum Committee, Quantitative Biomedical Sciences, Hanover, NH
2022 PhD Qualification Exam Committee Chair, Jeff Joseph, Hanover, NH
2023 Bachelor's High Honors Thesis Committee Member & Co-Advisor, Gokul Srinivasan, Hanover, NH
2023 Digital Health Advisory Group, Medical School Curriculum Committee, Geisel School of Medicine, Hanover, NH
2023 PhD Dissertation Exam Committee Member, Grace Rosner, Hanover, NH
2023 PhD Dissertation Exam Committee Member, Elizabeth Anderson, Hanover, NH
2024 PhD Dissertation Exam Committee Member, Lan Shui, MD Anderson, Houston, TX
2024 PhD Dissertation Exam Committee Member, Neda Khanjani, Cedars Sinai, Los Angeles, CA

Professional Development Activities

2024 JUMP: Junior Faculty Mentoring Program
2018-present CITI Program, Biomedical Responsible Conduct of Research (RCR) course completion
2018-present CITI Program, Biomedical Data or Specimens Research Basic course, completion
2018-present CITI Program, Good Clinical Practice (US, FDA focus) clinical trials with investigational drugs and medical devices (GCP) course completion
2019 Supervised Teaching Workshop, Mentor Skills Development
2019 NIH Grant Workshop
2017 Coaching Corps Leadership Development Program
2016 Crisis Support Counselor Training Program

Grant Reviewer Activities

2023 Dartmouth Cancer Center Developmental Grant Reviewer, July Cycle, Lebanon, NH
2023 NIH Center for Molecular Epidemiology COBRE Pilot Grant Reviewer, Lebanon, NH
2023 Dartmouth Cancer Center Developmental Grant Reviewer, December Cycle, Lebanon, NH
2024 Cedars Cancer Center Early Career Development Award, Los Angeles, CA

Professional Associations/Society Memberships:

2017-2019 Artificial Intelligence (AI) Enthusiast Club, Walnut Creek, CA, Founder
2018-2019 QuantBlitz Data Science Club, Hanover, NH, Member
2019 Epidemiology Students Club, Hanover, NH, Member
2020-2021 Natural Language Processing (NLP) Consultant, Department of Psychiatry, Hanover, NH
2019-2020 International Society for Computational Biology and Bioinformatics
2022 Association for Computing Machinery
2021- Quantitative Biomedical Sciences Ad-Hoc Reviewer Master's Admission Committee, Hanover, NH
2022- Dartmouth Cancer Center, Cancer Population Sciences
2022- Dartmouth Cancer Center, Metals in cancer working group
2022- Dartmouth Cancer Center, Biostatistics and Bioinformatics Shared Resource
2022- Dartmouth Cancer Center, Trace Element Analysis Shared Resource
2022- Quantitative Biomedical Sciences Bioinformatics Curriculum Committee, Hanover, NH
2023- Digital Pathology Association
2024- American Association for Cancer Research (AACR)
2024- United States and Canadian Academy of Pathology (USCAP)

Community Service:

2015 American Heart Association Advocacy, Advocacy Intern, Oakland, CA
2011-2019 Special Olympics, Head Coach, Walnut Creek, CA
2015-2018 Coaching Corps, King Middle School, Basketball Coach, Berkeley, CA
2015-2018 Coaching Corps Berkeley Chapter Executive Recruitment Coordinator, Berkeley, CA
2015-2017 American Foundation for Suicide Prevention, Outreach Coordinator, Berkeley, CA
2011-2016 Telescope Makers Workshop, Astronomy Docent and Telescope Maker, Mount Diablo Astronomical Society, Berkeley, CA
2015-2018 National Suicide Prevention Lifeline, American Foundation for Suicide Prevention, Oakland, CA
2019 New Hampshire Academy of Sciences Mentor, Lyme, NH
2019 New Hampshire Special Olympics Volunteer, Lyme, NH
2020-2021 Community Outreach Executive, Student Council, Hanover, NH
Special Olympics and Upper Valley Haven Shelter Food
2022- DCC CRTEC POWERED Mentor
2023 Dartmouth Undergraduate Admissions Recruitment & Outreach Collaboration
2023- Cedars-Sinai High School Lecture Outreach Program
2023- Cedars-Sinai AI Campus Mentor, Project Teams 2 and 7 for Biomedical Image and Network Analysis

2024- Cal State Dominguez Hills AI Campus Mentor
2024- Cedars-Sinai INSPIRE Intern Mentor
2024- Cedars-Sinai CRTEC Intern Mentor
2024 Black Men in White Coats Hands On Activity, Los Angeles Convention Center
2025 Undergraduates Gaining Research Opportunities for the Cancer Workforce (U-GROW) Program

Mentoring:

Research Mentoring

PostDoc:
2024 - Khang Le, Cedars Sinai, PostDoc, Image Analysis
2023 - Cynthia Jinno, Cedars Sinai, PostDoc Co-Mentee with Hideki Furuya, Bladder Cancer
2024 - Samaneh Sattari, UCSF, Urine Metals Biomineralization
2024 - Nicole Gull, Cedars Sinai, Ovarian Cancer Spatial Analysis (Collaboration)

Dissertation Students:
2021 - Marietta Montivero, Geisel, MD PhD Student, Surgical Excision/Dermatology
2021 - Elizabeth Anderson, Dartmouth College (QBS), PhD Student, Placenta Histology
2022 - Alos Diallo, Dartmouth College (QBS), PhD Student, Spatial Transcriptomics
2023 - Grace Rosner, Dartmouth College (MCB), PhD Student, Spatial Transcriptomics
2024 - Weiyi Wu, Dartmouth College (QBS), PhD Student, Spatial Transcriptomics (Collaboration)
2024 - Harsimran Kaur, PhD Student @ Vanderbilt, Spatial Transcriptomics (Collaboration)
2024 - Lan Shui, PhD Student @ MD Anderson, 3D Spatial Transcriptomics (Dissertation Committee)
2024 - Neda Khanjani, PhD Student @ Cedars, Alzheimer's Disease (Dissertation Committee)

Faculty:
2025 - Larissa Langhi Prata, Cedars Sinai Faculty, Department of Medicine
2024 - Vamsi Varra, Baylor, Mohs Surgeon, Dermatology
2024 - Yue Yan, Dartmouth Health Faculty, Medical Physicist, Radiation Oncology
2022 - Marthony Robins, Dartmouth Health Faculty, Medical Physicist, Radiation Oncology
2022 - Louis Vaickus, Dartmouth Health Faculty, Pathologist, Bladder Cancer Screening (K08)

Residents/Fellows:
2019 - 2021 Robert Hamilton, DH Pathology Resident/Fellow, Auto-Machine Learning
2019 - 2021 Chris Jackson, DH Pathology Resident/Fellow, Virtual Immunofluorescence
2020 - 2021 Ryan Glass, DH Pathology Resident/Fellow, Bayesian Cytology Prediction
2022 - Abdol Aziz, DH Pathology Resident, Graph Neural Networks
2023 - Sam Harvey, Johns Hopkins Pathology Resident, Urine Cytology ML
2023 - Yoseph Sayegh, Johns Hopkins Pathology Resident, Urine Cytology ML

Research Associates:
2018 - 2021 Jorge Lima, Data Scientist, Pressure Injury Prediction
2020 - Max Levis, Assistant Professor, NLP Suicide Risk
2021 - Brady Hunt, Data Scientist, Radiation Oncology
2019 - Carly Bobak, Data Scientist, Graphs & Networks

Medical Students:
2020 - 2021 Eren Veziroglu, Geisel, Medical Student, Digital Spatial Profiling
2020 - 2021 Mustafa Nasir Moin, Geisel, Medical Student, Digital Spatial Profiling
2022 - Raven Bennett, Geisel, Medical Student, Microbiome
2022 - Shahin Shahsavari, Geisel, Medical Student, Skin Aging
2022 - Faraz Farhadi, Geisel, Medical Student, Orthopedics
2022 - Harun Sugito, Geisel, Medical Student, Orthopedics
2022 Alex Lindqwister, Geisel, Medical Student, Med AI Education
2022 - Angel Moore, Geisel, Medical Student, Med AI Dermatology
2022 - Elizabeth Krogman, Geisel, Medical Student, Med AI Dermatology
2022 - Soo Hwan Park, Geisel, Medical Student, NLP
2022 - Travis Byrum, Geisel, Medical Student, NLP
2022 - Liam Locke, Geisel, Medical Student, NLP
2022 - Nicholas An, Geisel, Medical Student, Skin Photoaging

2023 - Meave Otieno, Geisel, Medical Student, Cancer Informatics
2018 - 2021 Christian Haudenschild, Medical Student Minnesota, Federated Data Networks
2024 - Camille Ng, Medical Student, California Northstate University College of Medicine, Cytology
2024 - Michael Yu, Medical Student, UCLA, Cytology

Master's Students:

2020 - Brody McNutt, Dartmouth College (QBS), Master's Student, Secure Data Encryption
2020 - 2022 Julian Gullett, Dartmouth College (QBS), Master's Student, Evaluation AI Technologies
2021 - Yunrui Lu, Dartmouth College (QBS), Master's Student, Natural Language Processing
2021 - Uhuru Kamau, Dartmouth College (QBS), Master's Student, Natural Language Processing
2021 - Shuyang Lu, Dartmouth College (QBS), Master's Student, Natural Language Processing
2021 - Taylor Hudson, Dartmouth College (QBS), Master's Student, CRISPR
2021 - Sean McOsker, Dartmouth College (QBS), Master's Student, Model Explainability
2022 - Natt Chan, Dartmouth College (QBS), Master's Student, Pathology
2022 - Ojas Ramwala, UWashington/NYU, CS PhD Student, Digital Pathology
2022 - Chenhao Zhao, Master's Student (QBS), Bayesian Statistics
2022 - Matthew Chan, Master's Student (QBS), Medical Informatics
2022 - Bofan Chen, Master's Student (QBS), Imaging
2022 - Digvijay Yadav, Master's Student (QBS), Surgical Technologies
2022 - Ayush Chakraborty, Master's Student (QBS), NLP
2022 - Minchuan Qin, Master's Student (QBS), Image Analysis
2022 - Sunishka Jain, Master's Student (CS), NLP
2023 - Ansh Gupta, Master's Student (QBS), Image Analysis
2023 - Monica DiMambro, Master's Student (QBS), NLP Veterans
2024 - Moses Addai, Dartmouth College, Master's Student, Program Coordinator
2024 - Olivia Cargnel, McGill University, Post-Bacc, Mental Health

PhD Rotation Students:

2021 - 2022 Jeff Joseph, Dartmouth College (QBS), PhD Rotation & Qual, Spatial Correlations
2022 Peiying Hua, Dartmouth College (QBS), PhD Rotation, NLP
2023 Thadryan Sweeney, Dartmouth College (QBS), PhD Rotation, Regression Trees
2023 - Ji-Qing Chen, Dartmouth College (MCB), PhD Candidate, Multimodal Bladder Cancer WSI

Undergraduate Students:

2019 - Jason Zavras, Dartmouth College, Presidential Scholar, Undergraduate Student, Stain Normalization
2020 - Jason McFadden, Dartmouth College, Undergraduate Student, Evaluation AI Technologies
2021 Osezele Okoruwa, Dartmouth College, Undergraduate Student, Stain Preference
2021 - 2022 Jean Yuan, Dartmouth College, Undergraduate Student, Medical Informatics
2021 - 2022 Daniel Dong, Dartmouth College, Undergraduate Student, Medical Informatics
2022 - William Chen, Dartmouth College, Undergraduate Student, Data Evaluation
2022 - John Zavras, Dartmouth College, Presidential Scholar, Undergraduate Student, Spatial Profiling
2022 - Sabin Hart, Dartmouth College, Undergraduate Student, DNA Methylation
2022 - David Kaufmann, Dartmouth College, Undergraduate Student, Cancer Immunology
2022 - Cinay Dilibal, Dartmouth College, Undergraduate Student, Medical Informatics
2022 - Julia Shen, Dartmouth College, Undergraduate Student, Placenta
2023 - Kamren Khan, Dartmouth College, Undergraduate Student, Dermatology
2023 - Art Robinson, Dartmouth College, Undergraduate Student, Dermatology Phone Application Photoaging
2023 - Onyinyechi Owo, Dartmouth College, Undergraduate Student, Pathology & Biomedical Engineering
2023 - Zoefaith Caraballo-Bobea, Dartmouth College, Undergraduate Student, Placental Histology
2022 - Suchita Hadimani, George Mason University, Undergraduate Student, Image analysis
2021 - Jack Greenburg, Middlebury College, Undergraduate Student, Natural Language Processing for CPT Code Billing
2021 - Carly Miles, University of Michigan, Undergraduate Student, Medical Informatics
2022 - Bailey Thompson, UC Santa Cruz, Undergraduate Student, Medical Informatics
2023 - Atharva Shah, Indiana University, Undergraduate Student, Pathology Informatics
2022 - Tess Cronin, University of New Hampshire, Undergraduate Student, Machine Learning Review

2023 - Duarte Albuquerque, Brigham and Women's Hospital / Harvard, Undergraduate Student, Computational Urology
2024 - Winnie Chen, University of Maryland, Spatial Genomics
2024 - Valentina Hong, George Mason University, Undergraduate Student, Image Analysis
2024 - Matthew Catrambone, Dartmouth College, Undergraduate Student, Image Analysis
2024 - Katherine Da, Dartmouth College, Undergraduate Student, Image Analysis
2024 - Elise Little, Dartmouth College, Undergraduate Student, ST
2024 - Chris Zhao, Dartmouth College, Undergraduate Student, Cervical Cancer
2024 - Chae Lee, Dartmouth College, Undergraduate Student, Program Coordinator
2024 - Ben Mattern, Dartmouth College, Undergraduate Student, Program Coordinator
2022 Deepanshu Mody, Other Institutions, Undergraduate Student, DNAm Aging
2022 – 2023 Serin Han, Other Institutions, Undergraduate Student, Metals
2024 Djurre Honsbee, McAllister, Undergraduate, Skin Machine Learning

<u>High School Students:</u>

2020 - 2020 Ajay Prabhakar, EDIT Summer Intern, High School Student, Morphology Hierarchy
2020 - 2020 Kaien Yang, EDIT Summer Intern, High School Student, Secure Data Encryption
2020 - 2020 Richard Zhan, EDIT Summer Intern, High School Student, Virtual Staining
2020 - Sumanth Ratna, EDIT Summer Intern, High School Student, Segmentation
2020 - 2021 Harsha Harish, EDIT Summer Intern, High School Student, Cell/Tissue Clustering
2020 - 2021 Nishitha Vattikonda, EDIT Summer Intern, High School Student, Natural Language Processing
2021 - Sachin Kumar, EDIT Summer Intern, High School Student, 3D Tissue Modeling
2021 - Ramya Reddy, EDIT Summer Intern, High School Student, Morphological-Molecular Alteration
2021 - Ram Reddy, EDIT Summer Intern, High School Student, Morphological-Molecular Alteration
2021 - Akshat Alok, EDIT Summer Intern, High School Student, Omics Deep Staging Models
2021 - Zarif Azher, EDIT Summer Intern, High School Student, Multimodal Integration
2021 - Andrew Wang, EDIT Summer Intern, High School Student, Cellular Hierarchy
2021 - Akash Pamal, EDIT Summer Intern, High School Student, Surgical Cell Modeling
2021 - Irfan Nafi, EDIT Summer Intern, High School Student, Surgical Cell Modeling
2021 - Tarushii Goel, EDIT Summer Intern, High School Student, Surgical Cell Modeling
2021 - Abhinav Angirekula, EDIT Summer Intern, High School Student, Surgical Cell Modeling
2021 - Cristian Clewis, EDIT Summer Intern, High School Student, Tissue Staging Models
2021 - Abena Kyereme-Tuah, EDIT Summer Intern, High School Student, Tissue Staging Models
2021 - Sameeksha Garg, EDIT Summer Intern, High School Student, Tissue Staging Models
2021 - Sagar Gupta, EDIT Summer Intern, High School Student, Omics Deep Staging Models
2021 - 2021 John Kim, EDIT Summer Intern, High School Student, 3D Tissue Modeling
2021 - 2021 Aryan Kumawat, EDIT Summer Intern, High School Student, 3D Tissue Modeling
2021 - 2021 Adnan Murtaza, EDIT Summer Intern, High School Student, 3D Tissue Modeling
2021 - Edward Zhang, EDIT Summer Intern, High School Student, Ink Imputation Histology
2021 - Taein Kim, EDIT Summer Intern, High School Student, Ink Imputation Histology
2021 - Nikhil Kalidasu, EDIT Summer Intern, High School Student, Cell Detection
2021 - 2021 Mohan Liu, EDIT Summer Intern, High School Student, Stain Preference
2021 - Michael Cheng, EDIT Summer Intern, High School Student, Cytology Translation
2022 - Utkarsh Goyal, EDIT Summer Intern, High School Student, DNAm
2022 - Sanjay Jacob, EDIT Summer Intern, High School Student, CRISPR
2022 - Anish Suvarna, EDIT Summer Intern, High School Student, Mohs
2022 - Eric Feng, EDIT Summer Intern, High School Student, Spatial Omics
2022 - Michael Fatemi, EDIT Summer Intern, High School Student, Spatial Omics
2022 - Ananya Gottumukkala, EDIT Summer Intern, High School Student, Microbiome
2022 - Aryaman Khanna, EDIT Summer Intern, High School Student, Mohs
2022 - Ram Vempati, EDIT Summer Intern, High School Student, Mohs
2022 - Nikhil Pesala, EDIT Summer Intern, High School Student, Mohs
2022 - Sameer Gabbita, EDIT Summer Intern, High School Student, DNAm
2022 - Neha Reddy, EDIT Summer Intern, High School Student, CRISPR
2022 - Audhav Durai, EDIT Summer Intern, High School Student, Mohs

2022 - Christal Wang, EDIT Summer Intern, High School Student, Satellites
2022 - UnCheng Leong, EDIT Summer Intern, High School Student, Virtual Staining
2022 - Hyunjae Chung, EDIT Summer Intern, High School Student, DNAm
2022 - Sayan Bhattacharya, EDIT Summer Intern, High School Student, Satellites
2022 - Will Crampton, EDIT Summer Intern, High School Student, Disease Staging
2022 - Amruta Rajeev, EDIT Summer Intern, High School Student, CRISPR
2022 - An Le, EDIT Summer Intern, High School Student, Satellites
2022 - Nancy Hernandez, EDIT Summer Intern, High School Student, Radiation Oncology
2022 - Ananya Pamal, EDIT Summer Intern, High School Student, Satellites
2022 - Rushank Goyal, EDIT Summer Intern, High School Student, Omics
2022 - Charlie Spivak, EDIT Summer Intern, High School Student, Merkel Cell
2022 - Adam Gilbert-Diamond, EDIT Summer Intern, High School Student, Merkel Cell
2022 - Cyril Sharma, EDIT Summer Intern, High School Student, Spatial Omics
2022 - Christopher Perriello, EDIT Summer Intern, High School Student, Virtual Staining
2022 - Sophie Chen, EDIT Summer Intern, High School Student, Mohs
2023 - VedhSai Thiriveedi, EDIT Summer Intern, High School Student, DNAm Cancer Subtyping
2023 - Jaiman Pandya, EDIT Summer Intern, High School Student, X-Ray Analysis
2023 - Arav Bhardwaj, EDIT Summer Intern, High School Student, Spatial Transcriptomics
2023 - Will Crampton, EDIT Summer Intern, High School Student, Squamous Cell Carcinoma
2023 - Archishma Marrapu, EDIT Summer Intern, High School Student, NLP Uncertainty
2023 - Rishabh Prabhu, EDIT Summer Intern, High School Student, Multimodal Prognostication
2023 - Patrick McOsker, EDIT Summer Intern, High School Student, COVID
2023 - Arnav Podichetty, EDIT Summer Intern, High School Student, TBD
2023 - Ishita Sengar, EDIT Summer Intern, High School Student, CRISPR
2023 - Dhruv Chandna, EDIT Summer Intern, High School Student, NLP and WSI Databasing
2023 - Tanay Panja, EDIT Summer Intern, High School Student, Multimodal Prognostication
2023 - Tristan Devictor, EDIT Summer Intern, High School Student, Multimodal Prognostication
2023 - Anmol Karan, EDIT Summer Intern, High School Student, Placental Histology
2023 - Vatsal Sivaratri, EDIT Summer Intern, High School Student, NLP and WSI Databasing
2023 - Srilekha Mamidala, EDIT Summer Intern, High School Student, Skin Photoaging
2023 - Aneesh Kalla, EDIT Summer Intern, High School Student, Thyroid Cytology
2023 - Catherine Jeon, EDIT Summer Intern, High School Student, Placental Histology
2023 - David Li, EDIT Summer Intern, High School Student, NLP and WSI Databasing
2023 - Neha Shaik, EDIT Summer Intern, High School Student, Spatial Elemental Analysis
2023 - Ashank Shah, EDIT Summer Intern, High School Student, Squamous Cell Carcinoma
2023 - Anish Malepati, EDIT Summer Intern, High School Student, Thyroid Cytology
2023 - Vivian Gao, EDIT Summer Intern, High School Student, DNAm Cancer Subtyping
2023 - Salban Nithilaselvan, EDIT Summer Intern, High School Student, Multimodal Prognostication
2023 - Jayadev Ghanta, EDIT Summer Intern, High School Student, Virtual Staining
2023 - Anvith Kakkera, EDIT Summer Intern, High School Student, Thyroid Cytology
2023 - Suchir Paruchuri, EDIT Summer Intern, High School Student, Placental Histology
2023 - Anushka Nimbekar, EDIT Summer Intern, High School Student, TBD
2023 - Victoria Zhang, EDIT Summer Intern, High School Student, Skin Photoaging
2023 - Xiaohui Chen, EDIT Summer Intern, High School Student, COVID
2023 - Daniel Gao, EDIT Summer Intern, High School Student, DNAm Cancer Subtyping
2023 - Ethan Mathias, EDIT Summer Intern, High School Student, Liver Fibrosis
2023 - Andrew Chen, EDIT Summer Intern, High School Student, Placental Histology
2023 - Samvrit Rao, EDIT Summer Intern, High School Student, NLP and WSI Databasing
2023 - Sean Pham, EDIT Summer Intern, High School Student, Spatial Transcriptomics
2023 - Aarya Rajesh, EDIT Summer Intern, High School Student, TBD
2023 - Lindsay Hwang, EDIT Summer Intern, High School Student, Placental Histology
2023 - Anurag Perakalapudi, EDIT Summer Intern, High School Student, NLP Uncertainty
2023 - Maira Elahi, EDIT Summer Intern, High School Student, TBD
2023 - Sruthi Pereddy, EDIT Summer Intern, High School Student, TBD

2023 - Aruesha Srivastava, EDIT Summer Intern, High School Student, Spatial Elemental Analysis
2023 - Nehal Singh, EDIT Summer Intern, High School Student, Virtual Staining
2023 - Chloe Sow, EDIT Summer Intern, High School Student, TBD
2023 - Akshith Ambekar, EDIT Summer Intern, High School Student, Urine Cytology
2023 - Eric Zeng, EDIT Summer Intern, High School Student, Bladder Prognostication
2023 - Jasmine Ma, EDIT Summer Intern, High School Student, TBD
2023 - Jaydon McVorran, EDIT Summer Intern, High School Student, TBD
2023 - Aditya Sengar, EDIT Summer Intern, High School Student, Placental Histology
2023 - Emi Zhang, EDIT Summer Intern, High School Student, NLP Uncertainty
2024 - Noah Lee, Cedars INSPIRE, High School Student, Urine Cytology
2024 - Working directly with 90 EDIT AI Summer Interns, 2024, largely Spatial Transcriptomics AI projects, see https://ben-m-7.github.io/editai_internship/

Career Mentoring

2020 – 2022 Julian Gullett, Master's Student (QBS), Career Mentoring
2021 - Sean Pietrowicz, Master's Student (QBS), Career Mentoring
2022 Alos Diallo, QBS PhD Student, Career Mentoring
2022 Kevin Rouse, Master's Student (QBS), Career Mentoring
2022 Anton Hung, Master's Student (QBS), Career Mentoring
2022 Sukriti Ghosh, Master's Student (QBS), Career Mentoring
2022 Aislinn Gilmour, Master's Student (QBS), Career Mentoring
2022 Tianyue Zhou, Master's Student (QBS), Career Mentoring

Cedars AI Campus Project Team Members

2024 Wilberforce Twinamatsiko, Cedars Sinai, Graduate Student, NC Ratio Bladder Cancer
2024 Hyunjun Choi, Cedars Sinai, Masters degree, NC Ratio Bladder Cancer
2024 Mythreye Venkatesan, Cedars Sinai, Masters degree, NC Ratio Bladder Cancer
2024 Anthony Nguyen, Cedars Sinai, MD, NC Ratio Bladder Cancer
2024 Cynthia Jinno, Cedars Sinai, PhD, NC Ratio Bladder Cancer
2024 Alli Dee, Cedars Sinai, High School Student, NC Ratio Bladder Cancer
2024 Annie Ester, Cedars Sinai, Masters degree, NC Ratio Bladder Cancer
2024 Eduardo Scandinari Manzolli, Cedars Sinai, Masters degree, NC Ratio Bladder Cancer
2024 Sanjay Das, Cedars Sinai, MD, NC Ratio Bladder Cancer
2024 Yan Ou, Cedars Sinai, PhD, NC Ratio Bladder Cancer
2024 Carlos David, Cedars Sinai, PhD, NC Ratio Bladder Cancer
2024 Michael Zuniga, Cedars Sinai, Masters degree, NC Ratio Bladder Cancer
2024 Megumi Nakamura, Cedars Sinai, MD, NC Ratio Bladder Cancer
2024 Natalyn Bell, Cedars Sinai, Masters degree, NC Ratio Bladder Cancer
2024 Cristal Gonzalez, Cedars Sinai, High School Student, NC Ratio Bladder Cancer
2024 Danita Ashley, Cedars Sinai, Graduate Student, NC Ratio Bladder Cancer
2024 Sergio Sanders, Cedars Sinai, Undergraduate Student, NC Ratio Bladder Cancer
2024 Camoron Wallace, Cedars Sinai, Undergraduate Student, NC Ratio Bladder Cancer
2024 Aojia Zhuang, Cedars Sinai, PhD, Biological Network Analysis
2024 Jonathan Bui, Cedars Sinai, Undergraduate Student, Biological Network Analysis
2024 Pedro Ribeiro, Cedars Sinai, Masters degree, Biological Network Analysis
2024 Haitao Chen, Cedars Sinai, Graduate Student, Biological Network Analysis
2024 Walter Morales, Cedars Sinai, Undergraduate Student, Biological Network Analysis
2024 Yunwen Wang, Cedars Sinai, PhD, Biological Network Analysis
2024 Arzu Has Silemek, Cedars Sinai, Postdoctoral Scientist, Biological Network Analysis
2024 Philip Wong, Cedars Sinai, PhD, Biological Network Analysis
2024 Steven Moore, Cedars Sinai, Undergraduate Student, Biological Network Analysis
2024 Ginam Cho, Cedars Sinai, PhD, Biological Network Analysis
2024 Jihyeon Lee, Cedars Sinai, PhD, Biological Network Analysis
2024 Constanze Oya, Cedars Sinai, Clinical Research Associate, Biological Network Analysis

2024 Christine Lam, Cedars Sinai, MD, Biological Network Analysis
2024 Richard Kim, Cedars Sinai, MD, Biological Network Analysis
2024 Woosung Ahn, Cedars Sinai, PhD, Biological Network Analysis
2024 Tyrice O'Connor, Cedars Sinai, Undergraduate Student, Biological Network Analysis
2024 Golnaz Yadollahikhales, Cedars Sinai, MD, Biological Network Analysis
2024 Sung Min Na, Cedars Sinai, Undergraduate Student, Biological Network Analysis
2024 Morvarid Kabir, Cedars Sinai, PhD, Biological Network Analysis
2024 Mounika Chaganti, Cedars Sinai, Masters degree, Biological Network Analysis
2024 Radin Razipour, Cedars Sinai, High School Student, Biological Network Analysis
2024 Ariya Mahbod, Cedars Sinai, MD, Biological Network Analysis

Cedars CRTEC YMCA Internship

2024 Valeria Mercado, Cedars Sinai, AI and Bladder Cancer
2024 Esmeralda Aparicio, Cedars Sinai, AI and Bladder Cancer
2024 Abigail Rott, Cedars Sinai, AI and Bladder Cancer
2024 Bethlehem Arefaine, Cedars Sinai, AI and Bladder Cancer
2024 Jazmine Mercado, Cedars Sinai, AI and Bladder Cancer

CSUDH Master's Committee Membership, CSUDH AI Campus

2024 Harsha Ponnada, CSUDH CS Master's Student, NLP
2024 Vivek Podduturi, CSUDH CS Master's Student, Graph Neural Networks and Fake News
2024 Umer Naeen, CSUDH CS Master's Student, Graph Neural Networks and Fake News
2024 Shahir Amjad, CSUDH CS Master's Student, Physician Networks
2024 Christian Quintero, CSUDH CS Master's Student, Bladder Cancer

Editorial Services:

2021- Frontiers in Medical Technology
Co-Guest Editor
2021- Cancers
Co-Guest Editor
2025- BMC Bioinformatics
Guest Editor

Consulting Activities:

Oct 2020 – present Statistical Consultant, Veterans Affairs Healthcare System, White River Junction, VT

Oct 2022 – present Statistical Consultant, DCC Trace Element Analysis Core, Lebanon, NH

Oct 2023 – present Consultant, Dartmouth Hitchcock Medical Center, Pathology & Dermatology, Lebanon, NH

Journal Referee Activity:

Crohn's and Colitis 360 (x1)
Pacific Symposium on Biocomputing (x4)
BMC Biomedical Medical Research Methodology (x1)
Laboratory Investigation (x2)
PLOS Computational Biology (x3)
Cancer Cytopathology (x1)
Computational Statistics & Data Analysis (x1)
Computerized Medical Imaging and Graphics (x2)

Computer Methods and Programs in Biomedicine (x2)
Clinical Epigenetics (x2)
Journal of Translational Medicine (x1)
Neural Processing Letters (x1)
All Life (x1)
BMC Medical Informatics (x2)
BMC Bioinformatics (x2)
The Lancet (x1)
Nature Communications (x3)
Nature Scientific Reports (x7)
IEEE Journal of Biomedical and Health Informatics (x1)
Bioinformatics (x1)
Frontiers in Education (x2)
Cancers (x2)
Annals of Applied Statistics (x1)
Journal of Medical Artificial Intelligence (x1)
NAR Genomics and Bioinformatics (x1)
Biomolecules (x1)
American Journal of Pathology (x1)
Clinical and Translational Medicine (x2)
Histopathology (x1)
JAMA Oncology (x2)
Cell Reports (x1)
Journal of Pathology Informatics (x1)
Briefings in Bioinformatics (x1)
The Lancet Digital Health (x1)
NPJ Precision Oncology (x1)
The Journal of Pathology (x1)
Health Informatics (x1)
Frontiers in Oncology (x1)
Bioinformatics Advances (x1)
Communications Biology (x1)

Summary of Entrepreneurial Activities

Related to the design of deep learning techniques for the analysis of whole slide images and high-resolution anorectal manometry devices (ongoing).

- I-Corps Incubator
- Dartmouth Innovations Accelerator for Cancer
- DRIVEN Accelerator
- Dartmouth Entrepreneurs Startup Competition Finalists
- 1 Provisional Patent
- 3 Patents Awarded, in process of dividing into systems & methods patents
- Ad Hoc Consultation for Two Digital Pathology Companies
- Scientific Advisor for Computational Biology Society

HONORS AND SPECIAL AWARDS:

2015-2017	Dean's List (Fall 2015, Spring 2016), UC Berkeley
2015-2017	Honors (All Semesters); Highest Distinction; Cum. GPA: 3.97 / 4.0; Major GPA: 3.98 / 4.0, UC Berkeley
2020	Center for Quantitative Biology Travel Award ($2,000), Geisel School of Medicine at Dartmouth College
2020	Best Paper, BIOSTEC 2020 Comp2Clinic Workshop
2021	Modern Pathology Article Top Pick of January 2021, Modern Pathology

2022 Hannah Croasdale Award for academic excellence ($1,000), Guarini School of Graduate and Advanced Studies
2023 2022 Faculty Publication Recognition, Department of Pathology and Laboratory Medicine, DH
2023 Editor's Choice Article, The American Journal of Pathology
2023 Reviewer of the Month September 2023, Journal of Medical Artificial Intelligence
2024 Most Influential Article of the Year, American College of Mohs Surgery

RESEARCH AWARDS AND GRANTS:

CURRENT GRANTS

Funding Period: 2022-
Title: Burroughs Wellcome Fellowship
Role: Co-Mentor
Funding Source: Burroughs Wellcome Fund
Directs: $60,000
Total Costs: $60,000

Funding Period: 2024-
Title: VA Clinical Science Research and Development Career Development Award (CX002630)
Role: Site-PI (PI: Levis M)
Funding Source: Veteran Affairs
Directs: $40,000
Total Costs: $40,000

Funding Period: 2022-
Title: R24GM141194 Biomedical National Elemental Imaging Resource (BNEIR) (Subaward Directs)
Role: Site-PI (PI: Brian Jackson)
Funding Source: National Institutes of Health
Directs: $271,000
Total Costs: $271,000

Funding Period: 2022-
Title: Informatics Software to Develop Cell-Type Specific Spatial Molecular, Elemental and Histological Signatures Associated with Tumor Metastasis
Role: PI
Funding Source: Dartmouth Cancer Center Developmental Funds
Directs: $60,000
Total Costs: $60,000

Funding Period: 2023-
Title: Machine Learning Strategies for Predicting the Risk of Suicide Using Clinical Note Text, Subaward Directs
Role: Site-PI (PI: Gui J)
Funding Source: Defense Advanced Research Projects Agency, Department of Defense, PR220927
Directs: $2,000,000
Total Costs: $2,000,000

Funding Period: 2023-
Title: 5P30CA023108 DCC CRTEC High School EDIT AI Program Coordinator, Travel Awards, Support
Role: PI
Funding Source: Dartmouth Cancer Center / National Institutes of Health
Directs: $20,600 in annual directs
Total Costs: $20,600 in annual directs

Funding Period: 2022-
Title: Semi-automated bladder cancer screening using machine learning: clinical validation and implementation
Role: Mentor (PI: Vaickus L)
Funding Source: National Institutes of Health K08CA267096
Directs: $1,000,000
Total Costs: $1,000,000

Funding Period: 2023-
Title: PRESS, a novel non-invasive tool for detection and assessment of skin tumor based on protoporphyrin IX (PPIX) fluorescence.
Role: Co-PI (PI: Chapman S)
Funding Source: P30 DCC Development Funds
Directs: $60,000
Total Costs: $60,000

Funding Period: 2024
Title: Pre-operative Stereotactic Radiosurgery (SRS) for Brain Metastases with or without Hyperbaric Oxygen (HBO): an Exploratory Molecular Marker Analysis
Role: Co-PI (PI: Hartford A)
Funding Source: DCC Developmental Funds
Directs: $100,500
Total Costs: $100,500

Funding Period: 2024-2025
Title: Enhancing Bladder Cancer Screening and Surveillance through Digital Integration of Urine Cytology Imaging, Proteomics, and Whole Exomic Sequencing for Biomarker Discovery
Role: PI
Funding Source: Cedars Sinai Precision Health
Directs: $80,000
Total Costs: $80,000

Funding Period: 2024-
Title: A Multiplex Protein Biomarker-Based Immunoassay for the Early Detection of Bladder Cancer
Role: Co-I (MPI: Rosser C, Furuya H)
Funding Source: National Institutes of Health R01CA277810
Directs: $4,000,000
Total Costs: $6,000,000

Funding Period: 2024-
Title: Expanding Access to Cervical Cancer Screening in Honduras through AutoPap, an Integrative Digital Artificial Intelligence Technology for Automated Pap Smear Slide Assessment
Role: PI
Funding Source: AWS Health Equity Initiative
Directs: $150,000
Total Costs: $150,000

Funding Period: 2024-
Title: Automated Histopathological Pap Smear Slide Assessment in the Honduras (separate from AWS Health Equity)
Role: Co-PI
Funding Source: AWS Social Responsibility and Impact
Directs: $150,000
Total Costs: $150,000

Funding Period: 2024-
Title: Impact of Exogenous Loads on Human Condylar Composition and Morphology, and TMJ Kinematics
Role: Co-I (MPI: Ho S, Larson P)
Funding Source: UCSF
Directs: $80,000
Total Costs: $80,000

Funding Period: 2024-2029
Title: ONECUT2 as Master Regulator of Androgen Receptor Axis in Prostate Cancer.
Role: Co-I (PI: Freeman M)
Funding Source: National Institutes of Health
Directs: $4,000,000
Total Costs: $6,000,000

Funding Period: 2024-
Title: 3-Dimensional Inference of Spatial Transcriptomics Data to Facilitate Same Section Destructive Assay Profiling at Interleaving Sections
Role: PI (Co-PI: Lau K)
Funding Source: National Institutes of Health
Directs: $90,000
Total Costs: $90,000

Funding Period: 2023
Title: Persistent Environmental Toxicants in Veteran CNS Tissue: Identifying Exposures Determining Higher ALS Risk
Role: Site-PI (PI: Stommel E)
Funding Source: CDC
Directs: $2,000,000
Total Costs: $2,000,000

Funding Period: 2024-
Title: The stromal microenvironment as a co-organizer of bladder carcinogenesis and progression
Role: Collaborator (PI: Chan C, Theodorescu D)
Funding Source: National Institutes of Health

Funding Period: 2025-
Title: Large animal model for squamous cell carcinomas of the skin and oral cavity
Role: Co-I (PI: Samkoe K, LeBoeuf M)
Funding Source: DCC Developmental Funds
Directs: $61,000
Total Costs: $61,000

PENDING GRANTS

Funding Period: 2022
Title: Opening DOORS to Low-Cost Library Synthesis for CRISPR Off-Target Screening
Role: PI
Funding Source: Neukom Institute
Directs: $40,000
Total Costs: $40,000

Funding Period: 2022
Title: Deep Learning Histomorphological Choriocarcinoma Triage System (American Cancer Society)
Role: PI

Funding Source: American Cancer Society
Directs: $30,000
Total Costs: $30,000

Funding Period: 2022
Title: Development of a crowd peer review platform for transdisciplinary computational research
Role: Co-PI (PI: Bobak C)
Funding Source: Neukom Institute
Directs: $40,000
Total Costs: $40,000

Funding Period: 2021
Title: Advancing Clinical Translational Science through Validation of Emerging Diagnostic Artificial Intelligence Technologies
Role: PI
Funding Source: NIGMS
Directs: $1,250,000
Total Costs: $1,250,000

Funding Period: 2022
Title: Machine Learning, NLP, Suicide Prevention
Role: Co-I (Levis M)
Funding Source: Veteran Affairs
Directs: $18,000
Total Costs: $18,000

Funding Period: 2022
Title: R03 Evaluating choriocarcinoma risk factors in first trimester miscarriages using quantitative deep learning histological assessments of abnormal villous morphology
Role: PI
Funding Source: National Institutes of Health
Directs: $50,000
Total Costs: $50,000

Funding Period: 2022
Title: R25 SEPA Emerging Diagnostic and Investigative Technologies (EDIT) AI: a virtual summer program for underserved high school students exploring artificial intelligence applications in medicine
Role: PI
Funding Source: NIGMS
Directs: $1,250,000
Total Costs: $1,800,000

Funding Period: 2022
Title: Impact of Phenols on Healthy Placental Growth
Role: Site-PI (PI: Romano)
Funding Source: National Institutes of Health
Directs: $4,000,000
Total Costs: $4,000,000

Funding Period: 2023
Title: Characterizing microbiomic and transcriptomic profiles in hidradenitis Suppurativa
Role: Co-I (PI: Hayden M)
Funding Source: Hitchcock Foundation
Directs: $100,000

Total Costs: $100,000

Funding Period: 2023-
Title: R21 Cell Type Metals, Spatial Transcriptomics Placenta
Role: PI
Funding Source: National Institutes of Health
Directs: $275,000
Total Costs: $500,000

Funding Period: 2023
Title: Deep Learning Placenta Histopathology & Cardiometabolic Health
Role: PI
Funding Source: National Institutes of Health
Directs: $275,000
Total Costs: $500,000

Funding Period: 2023
Title: R21 Confidence Intervals for High Dimensional Imaging and Network Visualization in Health Science
Role: Co-PI/Site-PI (PI: Tosteson T)
Funding Source: National Institutes of Health
Directs: $275,000
Total Costs: $500,000

Funding Period: 2023
Title: R01 Modifying immunohistochemical protocols for multiplexed imaging of inorganic elements and metal
Role: Site-PI (PI: Jackson B)
Funding Source: National Cancer Institute
Directs: $4,000,000
Total Costs: $4,000,000

Funding Period: 2023
Title: P30 Administrative Supplement: Integrating Genomic, Medical Imaging, and Electronic Health Record data using Multimodal Federated Learning
Role: Site-PI (PI: Lu, Y)
Funding Source: National Cancer Institute
Directs: $300,000
Total Costs: $300,000

Funding Period: 2023
Title: R01 Multicenter Validation for a Deep Learning Approach for Enhanced Urine Cytological Assessment and Rapid Bladder Cancer Screening
Role: PI
Funding Source: National Cancer Institute
Directs: $2,600,000
Total Costs: $3,400,000

Funding Period: 2023
Title: R01 Predicting colon cancer recurrence through spatial molecular characterization of the tumor immune microenvironment
Role: PI
Funding Source: National Institutes of Health
Directs: $3,500,000
Total Costs: $4,500,000

Funding Period: 2024
Title: R01 Integrating High-Resolution Elemental Mapping with Spatial Transcriptomics to Analyze Metal-Based Pathways in Tumor Growth and Spread
Role: PI
Funding Source: National Institutes of Health
Directs: $3,500,000
Total Costs: $4,500,000

Funding Period: 2024
Title: R21 Human Condylar Physicochemical Properties and Temporomandibular Pathobiomechanics
Role: Site-PI (PI: Ho S)
Funding Source: National Institutes of Health
Directs: $270,000
Total Costs: $450,000

Funding Period: 2023
Title: Real-Time Intra-fractional Dose Tracking for Magnetic Resonance Imaging-Guided Radiation Therapy Using Deep Learning Techniques
Role: Co-PI (Co-PI: Yan Y)
Funding Source: DCC Developmental Funds
Directs: $60,000
Total Costs: $60,000

Funding Period: 2023
Title: U01 ALTRA: Atlas of Lymphoma in TRAnsformation
Role: Co-I (PI: Merchant A)
Funding Source: National Institutes of Health, NCI Human Tumor Atlas Network
Directs: $4,000,000
Total Costs: $6,680,000

Funding Period: 2024
Title: A Super Resolution Diffusion Network Based on Single-Shot EPI-Based DWI Sequence with Geometric Distortion Correction for Pancreatic Cancer
Role: Co-PI (PI: Yan Y)
Funding Source: RSNA: Radiological Society of North America
Directs: $200,000
Total Costs: $200,000

Funding Period: 2024-
Title: Histopathological Detection of Melanoma with Artificial Intelligence
Role: Co-I (PI: Shah P)
Funding Source: Melanoma Research Foundation
Directs: $100,000
Total Costs: $100,000

Funding Period: 2024-2029
Title: Rapid deep and peripheral en face margin assessment in large solid tumors using paired-agent imaging
Role: Site-PI (PI: Samkoe K)
Funding Source: National Institutes of Health
Directs: $4,000,000
Total Costs: $4,000,000

Funding Period: 2024-2029
Title: Functional Competence of a Dentoalveolar Fibrous Joint in Vertebrates

Role: Site-PI (PI: Ho S)
Funding Source: National Institutes of Health
Directs: $4,000,000
Total Costs: $4,000,000

Funding Period: 2024-2029
Title: P01– Signaling and Metabolism-based Intervention Strategies Against Resistant TNBC Brain and Lung Metastases; Pathology Core
Role: Co-I (PI: Turkson J, Core-PI: Merchant A)
Funding Source: National Institutes of Health
Directs: $6,000,000
Total Costs: $6,000,000

Funding Period: 2024-
Title: Exploring the Clinical Utility of Nanopore Sequencing in Characterizing Carcinomas of Unknown Primary Site
Role: Co-I (PI: Shah P)
Funding Source: American Cancer Society
Directs: $50,000
Total Costs: $50,000

Funding Period: 2024-2027
Title: Building a global metallome for developing new diagnostic and therapeutic strategies in breast cancer.
Role: Co-PI (MPI: Vahdat L)
Funding Source: Mark Foundation
Directs: $3,000,000
Total Costs: $3,000,000

Funding Period: 2024-2027
Title: Identifying motor neuron disease pathways associated with metal toxicities and imbalances in ALS patients.
Role: Co-PI (MPI: Stommel E)
Funding Source: Target ALS
Directs: $1,300,000
Total Costs: $1,300,000

Funding Period: 2024-
Title: Learners to LeAders in Urology, Nephrology, and non-Cancer Hematology (LAUNCH) Training Program.
Role: Mentor (PI: Sattari S)
Funding Source: UCSF

Funding Period: 2024-
Title: Human Condylar Physicochemical Properties and Temporomandibular Pathobiomechanics
Role: Co-I (MPI: Ho S, Larson P)
Funding Source: National Institutes of Health R21
Directs: $275,000
Total Costs: $450,000

Funding Period: 2024-
Title: Re-Examining Cellular Signatures of Tumor Progression at Scale through Single-Cell Spatial Transcriptomics Inference from Histology
Role: PI
Funding Source: Cedars Cancer Prevention and Control
Directs: $50,000
Total Costs: $50,000

Funding Period: 2024-
Title: Avenues for protein carbamylation prevention and therapy
Role: Co-I (MPI: Berg A, Sahir K)
Funding Source: National Institutes of Health
Directs: $4,000,000
Total Costs: $6,000,000

Funding Period: 2025-
Title: Spatial Transcriptomics of Epithelial Ovarian Cancer and Association with Germline Genotype and Clinical Outcomes
Role: Co-I (PI: Pharoah P)
Funding Source: Department of Defense
Directs: $1,200,00
Total Costs: $1,200,00

Funding Period: 2025-
Title: Spatial Transcriptomics of Epithelial Ovarian Cancer and Association with Germline Genotype and Clinical Outcomes
Role: Co-I (PI: Pharoah P)
Funding Source: National Institutes of Health
Directs: $3,000,000
Total Costs: $4,000,000

Funding Period: 2025-
Title: Spatial Transcriptomic Histologic Twins
Role: PI
Funding Source: Cedars Cancer Center
Directs: $100,000
Total Costs: $100,000

Funding Period: 2025-
Title: KL1: Senescent Cells Effects in Sepsis
Role: Mentor (PI: Langhi Prata)
Funding Source: National Institute of Health
Directs: $2,000,000
Total Costs: $2,000,000

Funding Period: 2025-
Title: DP5: Getting by with a little help from my friends: deciphering the role of clonal hematopoiesis in non-small cell lung cancer
Role: Mentor (PI: Lownik J)
Funding Source: National Institute of Health
Directs: $2,000,000
Total Costs: $2,000,000

Funding Period: 2025-
Title: Multimodal Imaging and Pathomics for Precision Prostate Cancer Prognosis
Role: Co-I (PI: Omar M)
Funding Source: National Institute of Health
Directs: $3,000,000
Total Costs: $4,000,000

Funding Period: 2025-
Title: Radiogenomics to Improve Bladder Cancer Stage

Role: Co-I (PI: Furuya H)
Funding Source: National Institute of Health
Directs: $3,000,000
Total Costs: $4,000,000

Funding Period: 2025-
Title: R25 Biomed AI-Campus: An Innovative Program to Enhance Biomedical Research Training in AI
Role: Co-I (PI: Huang X)
Funding Source: National Institute of Health
Directs: $3,000,000
Total Costs: $4,000,000

Funding Period: 2025-
Title: Mitochondria as Mediators of Risk and Resiliency in the Developmental Origins of Metabolic Disease
Role: Site-PI (PI: Breton C)
Funding Source: National Institute of Health
Directs: $3,000,000
Total Costs: $4,000,000

PAST GRANTS

Funding Period: 2016
Title: Online Mental Health Education at UC Berkeley
Role: PI
Funding Source: UC Berkeley
Directs: $30,000
Total Costs: $30,000

Funding Period: 2019
Title: Burroughs Wellcome Fund, Big Data Life Sciences Fellowship
Role: PI
Funding Source: Burroughs Wellcome Fund
Directs: $60,000
Total Costs: $60,000

Funding Period: 2020
Title: I-Corps Business Development
Role: PI
Funding Source: Dartmouth Innovations Accelerator
Directs: $3,000
Total Costs: $3,000

Funding Period: 2020
Title: COBRE CQB Paper Travel Award
Role: PI
Funding Source: Center for Quantitative Biology
Directs: $2,000
Total Costs: $2,000

Funding Period: 2021
Title: Dartmouth Entrepreneurs Startup Competition Finalist
Role: PI
Funding Source: Dartmouth Technology Transfer Office

Directs: $5,000
Total Costs: $5,000

Funding Period: 2020-2022
Title: Digital Spatial Profiling of Colorectal Tumors for Signatures of Metastasis
Role: PI
Funding Source: DH Pathology Internal Research Grant
Directs: $40,000
Total Costs: $40,000

Funding Period: 2020-2022
Title: Dartmouth Hitchcock ORO Capital Investment, QDP-Alpha
Role: Co-PI (Co-PI: Vaickus L)
Funding Source: Dartmouth Hitchcock ORO Capital Investment Fund
Directs: $160,000
Total Costs: $160,000

Funding Period: 2020
Title: Virtual Flow Cytometry
Role: Co-I (PI: Sriharan A)
Funding Source: Neukom Institute CompX
Directs: $40,000
Total Costs: $40,000

Funding Period: 2020
Title: Virtual Laboratory for Students
Role: Co-PI (Co-PI: Vaickus L)
Funding Source: Neukom Institute CompX
Directs: $25,000
Total Costs: $25,000

Funding Period: 2020
Title: Quantitative Biomedical Sciences, TA Fellowship
Role: PI
Funding Source: Geisel School of Medicine
Directs: $5,000
Total Costs: $5,000

Funding Period: 2021
Title: Single Cell Genomics Core Visium Pilot Funds
Role: PI
Funding Source: Center for Quantitative Biology
Directs: $10,000
Total Costs: $10,000

Funding Period: 2022
Title: ELLIS Travel Award, EDIT students Ram and Ramya Reddy
Role: PI/Mentor
Funding Source: ELLIS Unit Amsterdam
Directs: $5,000
Total Costs: $5,000

Funding Period: 2021-2022
Title: IDeA States Pediatric Clinical Trials Biostatistics Consulting Subaward

Role: Co-I (PI: Komal Satti)
Funding Source: IDeA States Pediatric Clinical Trials
Directs: $5,000
Total Costs: $5,000

Funding Period: 2020-2022
Title: Dartmouth-Hitchcock Department of Psychiatry, Tucker Award (directs)
Role: Co-I (PI: Levis M)
Funding Source: Veteran Affairs
Directs: $24,000
Total Costs: $24,000

Funding Period: 2022-2024
Title: Conflict Analysis VA Web Intervention: A Whole Health Resource for Rural Veterans Subaward
Role: Site-PI (PI: Levis M)
Funding Source: Veteran Affairs
Directs: $30,000
Total Costs: $30,000

Funding Period: 2022
Title: How Obesity Influences the Immune Repertoire in Children. A Pilot Study
Role: Co-I (PI: Pilot, Komal Satti)
Funding Source: Hitchcock Foundation
Directs: $40,000
Total Costs: $40,000

Funding Period: 2021-2022
Title: Sun Damage Reversal Therapies (COBRE Pilot, P20GM104416)
Role: PI, Project Leader
Funding Source: National Institutes of Health
Directs: $64,000
Total Costs: $80,000

Funding Period: 2021-2023
Title: Richard Baughman Scholar Award
Role: PI
Funding Source: Philanthropy
Directs: $300,000
Total Costs: $300,000

Funding Period: 2022-2023
Title: NIGMS P20GM130454 Project Leader: Predicting colon cancer metastasis through spatial molecular characterization of the tumor immune microenvironment
Role: PI, Project Leader
Funding Source: NIGMS
Directs: $1,250,000
Total Costs: $1,250,000

Funding Period: 2021- 2023
Title: Prouty Grant CRISPR Targeting of Merkel Cell Polyomavirus
Role: Co-PI (Co-PI: Matthew Hayden)
Funding Source: Dartmouth Cancer Center Development Funds
Directs: $50,000
Total Costs: $50,000

Funding Period: 2020-2023
Title: Prouty Grant Validation of In-Vivo Imaging for Intraoperative Margin Assessment
Role: Co-PI (Co-PI: LeBeouf M)
Funding Source: Dartmouth Cancer Center Development Funds
Directs: $50,000
Total Costs: $50,000

Funding Period: 2022-2025
Title: Pathology Advanced Computational Environment
Role: Co-PI (Co-PI: Louis Vaickus)
Funding Source: Dartmouth Hitchcock ORO Capital Investment Fund
Directs: $250,000
Total Costs: $250,000

Funding Period: 2021-2023
Title: Burbank Study
Role: Levy J (Mentor)

Funding Period: 2022-2024
Title: Student Digital Pathology Laboratory 2.0
Role: Co-PI (Co-PI: Louis Vaickus)
Funding Source: Neukom Institute
Directs: $18,000
Total Costs: $18,000

Funding Period: 2022-2024
Title: Stephen Marsh Tenney, M.D., Medical Student Fellowship Award
Role: Mentor
Funding Source: Geisel School of Medicine
Directs: $30,000
Total Costs: $30,000

Funding Period: 2023
Title: Phase IIa interim analysis of the effects of L-serine in ALS
Role: PI
Funding Source: Dartmouth Health Clinical Trials Office
Directs: $10,000
Total Costs: $10,000

Funding Period: 2023
Title: Phase IIa final analysis of the effects of L-serine in ALS
Role: PI
Funding Source: Dartmouth Health Clinical Trials Office
Directs: $10,000
Total Costs: $10,000

Funding Period: 2023-
Title: R25CA250956 POWERED Mentor Support, Award
Role: Mentor/Co-I (PI: Steve Fiering)
Funding Source: National Institutes of Health
Directs: $5,000
Total Costs: $5,000

Funding Period: 2023-
Title: 5P30CA023108 DCC CRTEC Travel Funding, Zarif Azher
Role: PI/Mentor
Funding Source: Dartmouth Cancer Center / National Institutes of Health
Directs: $1,300
Total Costs: $1,300

Funding Period: 2024-
Title: 5P30CA023108 DCC CRTEC Travel Funding, Aruesha Srivastava
Role: PI/Mentor
Funding Source: Dartmouth Cancer Center / National Institutes of Health
Directs: $1,000
Total Costs: $1,000

Funding Period: 2024-
Title: Dept. Pathology Travel Funding, Leah Zhang
Role: Mentor
Funding Source: Dartmouth Health Dept. Pathology
Directs: $1,500
Total Costs: $1,500

Funding Period: 2023-
Title: PSB Travel Awards: Gokul Srinivasan, Zarif Azher
Role: Mentor
Funding Source: Pacific Symposium Biocomputing
Directs: $3,000
Total Costs: $3,000

Funding Period: 2024
Title: Regeneron STS Top 40: Sophie Chen
Role: Mentor
Funding Source: Regeneron
Directs: $25,000
Total Costs: $25,000

RESEARCH FOCUS AND INTERESTS:
At Cedars-Sinai Medical Center, as the Director of Digital Pathology Research, I am spearheading the innovation of user-centric digital pathology technologies, integrating genomics, imaging, and AI into clinical workflows. Concurrently, my team delves into the intricacies of spatial molecular heterogeneity within tumors, using advanced spatial omics and AI– other breakthroughs include advances in AI-assisted surgery and bladder cancer detection.

Technical and Research skills:
Python • R • Shell • Supercomputer • Machine Learning • Dataviz • PyTorch • NLP
Sklearn • Plotly • Aircraft Pilot • Dask • Matlab • Javascript • C++ • SQL • Spatial Transcriptomics
Deep Learning • Docker • AWS • LaTEX • Nextflow • CWL Pipelines • Stan • Epidemiology
Comp. Vision • Sensibly Constructing Statistical Golems • Graph Neural Networks

INVITED LECTURES AND PRESENTATIONS:

International Presentations
1. Preliminary Evaluation of Generative Image Translation Technologies for Histopathology Biomedical Engineering Systems and Technologies (Biostec) 2020 C2C Workshop Valletta, Malta 2020

2. Federated Data Networks SIGAPP ACM 2022 Virtual Conference 2022
3. Multimodal Learning SIGAPP ACM 2022 Virtual Conference 2022
4. Graph Neural Networks for Lymphocyte Prediction GeoMedIA Workshop, MICCAI Amsterdam 2022

National Presentations

1. Snapshots of genome evolution and population dynamics in the allopolyploid grass Brachypodium hybridum American Society of Plant Biologists (ASPB) Honolulu, HI 2017
2. PathFlowAI: Scalable Digital Pathology Pacific Symposium Biocomputing Kona, HI 2020
3. Topological Feature Extraction for Whole Slide Images with Graph Neural Networks Pacific Symposium Biocomputing Kona, HI 2021
4. Digital spatial profiling identifies novel biomarkers for locally invasive tumors Association for Molecular Pathology Virtual 2021
5. Mixed effects machine learning on spatially localized immuno-oncology markers for colon metastasis prediction Pacific Symposium Biocomputing Kona, HI 2022
6. Artificial Intelligence for Prediction of Spatial Transcriptomics from Whole Slide Images, Enhanced with CytAssist 10x Genomics User Group Meeting Boston, MA 2023
7. Artificial Intelligence for Prediction of Spatial Transcriptomics from Whole Slide Images, Enhanced with CytAssist Boston Bioinformatics Society Boston, MA 2023
8. Digital Pathology and Artificial Intelligence for Spatial Molecular Inference and Multimodal Integration, Spatial Biology Symposium, Los Angeles, CA 2024
9. AI-Powered Tool for Rapid & Reliable Bladder Cancer Screening and Surveillance: Multicenter Validation Efforts, AACR Bladder Cancer, Charlotte, NC 2024
10. *FUTURE OF ARTIFICIAL INTELLIGENCE IN BLADDER CANCER RESEARCH AND PATIENT MANAGEMENT*, **Session Chair Presentation**, AACR Bladder Cancer, Charlotte, NC 2024
11. From Clinical Decision Support to Spatial Biomarker Development, Explore the Role of Translational AI Research for Digital Pathology @ Cedars Sinai, 10th Digital Pathology & AI Congress, San Diego, CA 2024
12. Leveraging Digital Pathology, AI, and Spatial Genomics to Study Tumor Progression. U54 National Meeting, Seattle, WA 2024
13. Multi-Center Preliminary Validation of Deep Learning in Urine Cytology Across Diverse Clinical Settings for Rapid Bladder Cancer Screening, Pathology Informatics Summit, Ann Arbor, MI 2024
14. AI-Powered Tool for Rapid & Reliable Bladder Cancer Screening and Surveillance: Multicenter Validation Efforts, Bladder Cancer Advocacy Network Think Tank, San Diego, CA 2024
15. Digital Pathology for Spatial Molecular Inference from Histology and Preliminary Metals-Based Pathway Analysis, Translational and Basic Science Research in Early Lesions (TBEL) Research Consortia, Houston, TX 2024
16. Precision Computational Oncology through Spatial Transcriptomics Inference and Multimodal Analysis, NCI Computational Oncology Working Group, Bethesda, MD 2025

Regional and Extramural Local Presentations

1. Where are Your Bug's Genes and What do They Do? Workflow Automation and Machine Learning for Gene Annotation and Function. Zymergen Emeryville, CA & Seattle, WA 2018
2. Machine Learning Analytics of Pancancer Methylation Microarray and RNA-sequencing Profiles at Susceptibility Loci. Celebration of Biomedical Research at Dartmouth (CBRaD) Hanover, NH 2019
3. MethylNet: A Modular Deep Learning Approach to DNA Methylation Prediction Quantitative Biomedical Sciences: (QBS) Retreat and NCCC Retreat Hanover, NH 2019
4. PathFlowAI: Scalable Digital Pathology Dartmouth-Hitchcock Retreat Hanover, NH 2020
5. Improving Data Representation Software for DNAm and Histopathology Research in Progress, QBS Hanover, NH 2020

6. Mortality Prediction from Satellite Imagery Burroughs Wellcome Fellowship Hanover, NH 2020
7. Automating the Paris System Burroughs Wellcome Fellowship Hanover, NH 2020
8. Opportunities for Machine Learning Research in Pathology and Dermatology Department of Dermatology Hanover, NH 2021
9. Introduction to Neural Networks, Guest Lecture for QBS Class QBS Hanover, NH 2021
10. Application of Hierarchical Bayesian Methods for Medical Artificial Intelligence, Guest Lecture for QBS Class QBS Hanover, NH 2021
11. Uncertainty in Disease Staging, Research in Progress QBS Hanover, NH 2021
12. Emerging Diagnostic and Investigative Technologies: Validation of Deep Learning Technologies for DNA Methylation and Histopathology Thesis Seminar Talk Hanover, NH 2021
13. Emerging Machine Learning Methods in Digital Pathology EDIT Seminar Talk Hanover, NH 2021
14. Opportunities for Machine Learning Research in Pathology QBS Hanover, NH 2021
15. R Software Packaging, Guest Lecture for QBS Class QBS Hanover, NH 2021
16. Research Overview, Department of Epidemiology Hanover, NH 2021
17. Mixed effects machine learning on spatially localized immuno-oncology markers for colon metastasis prediction NCCC Retreat Lebanon, NH 2021
18. Introduction to Machine Learning and Research Opportunities in Pathology and Dermatology Geisel School of Medicine Medical Student AI Interest Group Lebanon, NH 2022
19. Rapid 100% Margin Assessment through AI in the Surgical Pathology Setting Melanoma Retreat DHMC, Lebanon, NH 2022
20. EDIT Machine Learning Internship Program Dermatology Research Night DHMC, Lebanon, NH 2022
21. Introduction to Neural Networks, Guest Lecture for QBS177 Class QBS Hanover, NH 2022
22. Advancing Clinical Translational Sciences through Validation of Emerging Artificial Intelligence Technologies Cancer Population Sciences Hanover, NH 2022
23. Medical AI Opportunities Oakland Tech Oakland, CA 2022
24. Artificial Intelligence @ Dartmouth Health, Guest Lecture for ENGS 56 Thayer School of Engineering Hanover, NH 2022
25. Virtual QBS Master's Capstone Conference QBS Hanover, NH 2022
26. Virtual EDIT AI Conference DHMC Hanover, NH 2022
27. EDIT: Advancing Clinical Translational Sciences through Validation of Emerging AI Technologies QBS Hanover, NH 2022
28. Introduction to Neural Networks, Guest Lecture for QBS177 Class QBS Hanover, NH 2023
29. Advancing Clinical Translational Sciences through Validation of Emerging Artificial Intelligence Technologies Cancer Epidemiology Special Seminar Hanover, NH 2023
30. Predicting colon cancer metastasis through spatial molecular characterization of the tumor immune microenvironment Cancer for Quantitative Biology Research in Progress Hanover, NH 2023
31. Predicting colon cancer metastasis through spatial molecular characterization of the tumor immune microenvironment Cancer for Quantitative Biology External Advisory Committee Meeting Hanover, NH 2023
32. Artificial Intelligence @ Dartmouth Health, Guest Lecture for ENGS 56 Thayer School of Engineering Hanover, NH 2023
33. Virtual EDIT AI Conference DHMC Hanover, NH 2023
34. Dartmouth Cancer Scholar's Program, Applications of Artificial Intelligence for Digital Pathology, Hanover, NH 2023
35. Characterizing Transcriptomic Shifts in Mesenchymal Stem Cells of Glioblastoma Patient-Derived Cell Lines Post-Radiation, Dartmouth Cancer Center, Hanover, NH 2024
36. AI Decision Support Tools in Digital Pathology: The Path to Clinical Implementation, Cal State University Dominguez Hills AI Campus, Los Angeles, NH, June 2024

37. Intro to Digital Pathology & AI @ Cedars, Guest Lecture for ENGS 56 Thayer School of Engineering Hanover, NH 2024
38. AI Applications for Digital Pathology, Cal State University Dominguez Hills AI Campus, Los Angeles, NH, Dec 2024

Cedars-Sinai Presentations

1. Advancing Clinical Translational Sciences through Validation of Emerging Artificial Intelligence Technologies Cedars Sinai Medical Center, Los Angeles, CA 2023
2. Exploring Digital Pathology: Emerging Applications from Cytopathology to Spatial Molecular Profiling, Pathology Special Seminar, Cedars Sinai Medical Center, Los Angeles, CA 2023
3. Spatial Profiling Applications for Digital Pathology, including Artificial Intelligence and Multimodal Analysis, Spatial Profiling Seminar, Cedars Sinai Medical Center, Los Angeles, CA 2023
4. Advancing Clinical Translational Sciences: Digital Pathology, Artificial Intelligence, and Training Initiatives, Cancer Prevention and Control, Cedars Cancer Center, Cedars Sinai Medical Center, Los Angeles, CA 2024
5. Digital Pathology & Biostatistical Research Support, Pathology, Cedars Sinai Medical Center, Los Angeles, CA 2024
6. Introduction to the Levy Lab for Digital Pathology Research, Computational Biomedicine, Cedars Sinai Medical Center, Los Angeles, CA 2024
7. Emerging Translational Digital Pathology Research: Multicenter Validation of AI for Urine Cytopathology and Spatial Genomics, Urology, Cedars Sinai Medical Center, Los Angeles, CA 2024
8. From Clinical Decision Support to Spatial Biomarker Development:
   Explore the Role of Translational AI Research for Digital Pathology @ Cedars Sinai, Cedars Sinai Medical Center, Los Angeles, CA 2024
9. Advancing Clinical Translational Sciences: Digital Pathology, Artificial Intelligence, and Training Initiatives, Cedars Cancer Prevention and Control, Los Angeles, CA 2024
10. Digital Pathology & Biostatistical Research Support, Cedars Pathology, Los Angeles, CA 2024
11. Cedars Sinai AI Campus Showcase Opening Remarks, Cedars Sinai, Los Angeles, CA 2024
12. AI for Digital Pathology: Emerging Translational Applications in Cancer Screening, Treatment, and Spatial Biology, Cedars Sinai Cancer Center Retreat, Los Angeles, CA 2024
13. Digital Pathology Reflections, Cedars Pathology Informatics Steering Committee, Los Angeles, CA 2024
14. Precision Computational Oncology through Spatial Transcriptomics Inference and Multimodal Analysis, Spatial Biology Seminar Series, Los Angeles, CA 2025

<u>TEACHING ACTIVITIES</u>:

Graduate Education:
Courses:
Professional Level / Online:

2022	Applied Machine Learning (QBS)	50 hr/yr

Graduate Level:

2025	Planned: Cedars AI for Biomedical Imaging Informatics	150 hr/yr
2022	Participation in Scientific Research (QBS 195)	150 hr/yr
2021-2022	Independent Study (QBS 195) (x6 students)	150 hr/yr
2022	Master's Capstone Experience (QBS 185)	150 hr/yr
2021	Faculty Seminar Student Projects (QBS 110.5)	150 hr/yr
2023	QBS Journal Club– Machine Learning	40 hr/yr
2023	QBS Journal Club– AI and Placental Histology	40 hr/yr
2023	QBS Journal Club– Spatial transcriptomics technologies	40 hr/yr
2023	Master's Capstone Experience (QBS 185)	150 hr/yr

2025	Planned: Cedars AI for Biomedical Imaging Informatics	150 hr/yr
2024	CSU Dominguez Hills AI Campus, Graduate Capstone Projects	50 hr/yr
2025	CSC-590/599, CSUDH AI Campus Undergraduate Capstone	50 hr/yr
2025	QBS Journal Club– Spatial transcriptomics technologies, # 2	40 hr/yr

Lectures:

2020	Introduction to Python (QBS 146)	2 hr/yr
2021	Introduction to Neural Networks (QBS 177)	2 hr/yr
2021	Application of Hierarchical Bayesian Methods to Machine Learning (QBS 122)	3 hr/yr
2021-2022	Machine Learning in Pathology (QBS 110)	3 hr/yr
2021	R Software Packaging (QBS 181)	3 hr/yr
2022	Introduction to Neural Networks (QBS 177)	2 hr/yr
2022	Artificial Intelligence @ Dartmouth Health (ENGS 56)	2 hr/yr
2023	Introduction to Neural Networks (QBS 177)	2 hr/yr
2023	Artificial Intelligence @ Dartmouth Health (ENGS 56)	2 hr/yr

Supervised Teaching:
Graduate Level:

2019	Foundations of Biostatistics (QBS 120)	150 hr/yr
2020-2021	Statistical Learning for Big Data (QBS 177)	150 hr/yr
2021	Hierarchical Bayesian Modeling (QBS 122)	150 hr/yr

Graduate Workshop:

2020	Fundamentals of Bioinformatics and High-Performance Computing	3 hr/yr

Undergraduate Medical Education:
Medical Student Enrichment Elective:

2023	Introduction to Data Science and Applications	50 hr/yr
2023	Digital Health Scholars Program – Medical Curriculum Design	40 hr/yr

Graduate Medical Education:
Pathology Residents

2022	Dartmouth Medical Informatics & AI	20 hr/yr
2023	Dartmouth Medical Informatics & AI	20 hr/yr
2024	Cedars Pathology Residents– AI	5 hr/yr

Multidisciplinary / Interdepartmental:

2021	Mentorship Ethics Discussion Panelist	3 hr/yr

Relevant coursework:
Hierarchical, Bayesian Modeling, Social Network Analysis, Epidemiology, Biostatistics, Bioinformatics, Linear Algebra, Diff. Eq., Multivar. Calc., C++, Python, Statistics, Machine Learning, Health Promotion, Policy, Management, Quantum Computing and Stat Mechanics

PATENTS

Awarded

7/26/2023 SYSTEM AND METHOD FOR RAPID AND ACCURATE HISTOLOGIC ANALYSIS OF TUMOR MARGINS USING MACHINE LEARNING
File No. 076/0055
Inventors: Matthew LeBoeuf, Louis Vaickus, Joshua Levy

2/14/2024 SYSTEM AND METHOD FOR AUTOMATION OF SURGICAL PATHOLOGY PROCESSES USING ARTIFICIAL INTELLIGENCE
File No. 076/0061R
Inventors: Matthew LeBoeuf, Louis Vaickus, Joshua Levy

5/1/2024 SEMI-AUTONOMOUS SYSTEM FOR ASSESSMENT OF URINE CYTOLOGY
File No. 62/757,225
Inventors: Xiaoying Liu, Louis Vaickus, Joshua Levy

Provisional/Pending
11/22/2022 SYSTEM AND METHOD FOR DETECTING CONDITIONS FROM ANORECTAL MANOMETRY DATA USING DEEP LEARNING
File No. 076/0062R
Inventors: Eric Dinesh Shah and Joshua J. Levy

MEDIA

Interviews:
2023 Medical AI Curricular Design. National Public Radio Whyy Interview.
2023 Interactive Dashboard for Detecting Instances of Underbilling. College of American Pathologists TODAY Interview.
2023 Medical applications of AI technologies in Radiology and Pathology. Lancet Oncology.
2023 Reviewer of the Month. Journal of Medical Artificial Intelligence.

BIBLIOGRAPHY/PUBLICATIONS:

Research Papers – Peer-Reviewed (Published & In Press)
First Author

1. **Levy J**, Titus A, Salas L, Christensen B. PyMethylProcess - convenient high-throughput preprocessing workflow for DNA methylation data. Bioinformatics. 2019.
2. **Co-first:** *Gordon SP, * **Levy J**, Vogel JP. PolyCRACKER, a robust method for the unsupervised partitioning of polyploid subgenomes by signatures of repetitive DNA evolution. BMC Genomics. 2019.
3. **Levy J**, Titus AJ, Petersen CL, Chen Y, Salas LA, Christensen BC. MethylNet: An Automated and Modular Deep Learning Approach for DNA Methylation Analysis. BMC Bioinformatics. 2020.
4. **Levy J**, Salas LA, Christensen BC, Sriharan A, Vaickus LJ. PathFlowAI: A High-Throughput Workflow for Preprocessing, Deep Learning and Interpretation in Digital Pathology. Pacific Symposium on Biocomputing, 2020;25:403–14.
5. **Levy J**, O'Malley AJ. Don't Dismiss Logistic Regression: The Case for Sensible Extraction of Interactions in the Era of Machine Learning. BMC Medical Research Methodology. 2020.
6. **Levy J**, Jackson C, Sriharan A, Christensen B, Vaickus L. Preliminary Evaluation of the Utility of Deep Generative Histopathology Image Translation at a Mid-Sized NCI Cancer Center. Proceedings of the 13th International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC 2020) - Volume 3: BIOINFORMATICS
7. **Levy J**, Haudenschild C, Barwick C, Christensen B, Vaickus L. Topological Feature Extraction of Whole Slide Images with Graph Neural Networks. Pacific Symposium on Biocomputing. 2021.
8. **Levy J**, Azizgolshani N, Andersen M, Suriawinata A, Liu X, Lisovsky M, Ren B, Bobak C, Christensen B, Vaickus L. A Large-Scale Internal Validation Study of Unsupervised Virtual Trichrome Staining Technologies on Non-alcoholic Steatohepatitis Liver Biopsies. Modern Pathology, 2021
9. **Levy J**, Chen Y, Azizgolshani N, Petersen C, Titus A, Moen E, Vaickus L, Salas L, Christensen B. Biologically Motivated Organization of DNAm Neural Networks, Inspired by Capsule Networks, NPJSBA, 2021.
10. **Levy J**, Lebeaux R, Christensen B, Tosteson T, Bryan Y. Journey across Epidemiology's Third Variables: An Anesthesiologist's Guide for Successfully Navigating Confounding, Mediation, and Effect Modification. BMJ RAPM, 2021.

11. **Levy J**, Lebeaux, R. M., Hoen, A. G., Christensen B, Vaickus L, MacKenzie T. Using Satellite Images and Deep Learning to Identify Associations Between County-Level Mortality and Residential Neighborhood Features Proximal to Schools: A Cross-Sectional Study. Frontiers in Public Health 9, 1652 (2021).
12. **Levy J**, Vaickus L. Applications of AI in Anatomic Pathology. *Advances in Molecular Pathology,* 2021
13. **Levy J**, Bobak C, Nasir-Moin M, Veziroglu E, Palisoul S, Barney R, Salas L, Christensen B, Tsongalis G, Vaickus L. Mixed Effects Machine Learning Models for Colon Cancer Metastasis Prediction using Spatially Localized Immuno-Oncology Markers. Pacific Symposium on Biocomputing. 2022.
14. **Levy, J.,** Vattikonda, N., Haudenschild, C., Christensen, B. & Vaickus, L. Comparison of Machine Learning Algorithms for the Prediction of Current Procedural Terminology (CPT) Codes from Pathology Reports. *Journal of Pathology Informatics* (2022)
15. Co-first: *Kelliher, M., ***Levy, J.,** *Nerenz, R., Poore B, Johnston A, Rogers A, Stella M, Snow S, Cervinski M, Hubbard J. Comparison of Symptoms and Antibody Response Following Administration of Moderna or Pfizer SARS-CoV-2 Vaccines. *Archives of Pathology & Laboratory Medicine* (2022).
16. **Levy, J. J.** Lima J, Miller M, Freed G, O'Malley A, Emeny R. Machine Learning Approaches for Hospital Acquired Pressure Injuries: A Retrospective Study of Electronic Medical Records. Frontiers in Medical Technology 4, (2022).
17. **Levy J**, Liu X, Marotti J, Kerr D, Gutmann E, Glass R, Dodge C, Suriawinata A, Vaickus L. Uncovering Additional Predictors of Urothelial Carcinoma from Voided Urothelial Cell Clusters Through a Deep Learning Based Image Preprocessing Technique. *Cancer Cytopathology 2022.*
18. **Levy J**, Liu X, Marotti J, Kerr D, Gutmann E, Glass R, Dodge C, Vaickus L. Large-Scale Longitudinal Comparison of Urine Cytological Classification Systems Reveals Potential Early Adoption of The Paris System Criteria. *Journal of the American Society of Cytopathology* 2022.
19. **Levy J**, Navas C, Chandra J, Christensen B, Vaickus L, Curley M, Chey W, Baker J, Shah E. Video-Based Deep Learning to Detect Dyssynergic Defecation with 3D High-Definition Anorectal Manometry. *Digestive Diseases and Sciences*, 2022
20. **Levy J**, Lu Y, Montivero M, Ramwala O, McFadden J, Miles C, Diamond A, Reddy R, Reddy R, Hudson T, Azher Z, Pamal A, Gabbita S, Cronin T, Ismail A, Goel T, Jacob S, Suvarna A, Kim T, Zhang E, Reddy N, Ratna S, Zavras J, Vaickus L. Artificial Intelligence, Bioinformatics, and Pathology: Emerging Trends Part I– An Introduction to Machine Learning Technologies. *Advances in Molecular Pathology (2023).*
21. **Levy J**, Lu Y, Montivero M, Ramwala O, McFadden J, Miles C, Diamond A, Reddy R, Reddy R, Hudson T, Azher Z, Pamal A, Gabbita S, Cronin T, Ismail A, Goel T, Jacob S, Suvarna A, Kim T, Zhang E, Reddy N, Ratna S, Zavras J, Vaickus L. Artificial Intelligence, Bioinformatics, and Pathology: Emerging Trends Part II– Current Applications in Anatomic and Molecular Pathology. *Advances in Molecular Pathology (2023).*
22. **Levy J**, Zavras J, Veziroglu E, Nasir-Moin M, Kolling F, Christensen B, Salas L, Barney R, Palisoul S, Ren B, Liu X, Kerr D, Pointer K, Tsongalis G, Vaickus L. Identification of Spatial Proteomic Signatures of Colon Tumor Metastasis using the Digital Spatial Profiler. *The American Journal of Pathology* (2023).
23. **Levy J**, Chan N, Marotti J, Rodrigues N, Ismail A, Kerr D, Gutmann E, Glass R, Dodge C, Suriawinata A, Christensen B, Liu X, Vaickus L. Examining longitudinal markers of bladder cancer recurrence through a semi-autonomous machine learning system for quantifying specimen atypia from urine cytology. *Cancer Cytopathology* (2023)
24. **Levy J**, Chan N, Marotti J, Kerr D, Gutmann E, Glass R, Dodge C, Suriawinata A, Christensen B, Liu X, Vaickus L. Large-Scale Validation Study of an Improved Semi-Autonomous Urine Cytology Assessment Tool: AutoParis-X. *Cancer Cytopathology* (2023)
25. **Levy J**, Davis M, Chacko R, Davis M, Fu L, Goel T, Pamal A, Nafi I, Angirekula A, Suvarna A, Vampeti R, Christensen B, Hayden M, Vaickus L, LeBoeuf M. Deep Learning-Assisted Intraoperative Assessment of Basal Cell Carcinoma Tumor Margins with Precise Histologic Tumor Mapping to Surgical Site. *NPJ Precision Oncology* (2023)
26. **Levy J,** Keluo Y. The Future of Digital Cytology and Artificial Intelligence. *Journal of the American Society of Cytopathology (2024)*
27. Co-first: *Levis, M., ***Levy, J.,** Dimambro, M., Dufort, V. Ludmer, DJ., Shiner, B. Using natural language processing to evaluate temporal patterns in suicide risk variation among high-risk Veterans. Psychiatry Research. (2024)
28. **Levy J.** et al. Insights to aging prediction with AI based epigenetic clocks. Epigenomics (2025)

29. **Levy J** et al. Investigating the Differential Impact of Psychosocial Factors by Patient Characteristics and Demographics on Veteran Suicide Risk Through Machine Learning Extraction of Cross-Modal Interactions. Pacific Symposium on Biocomputing (2025)

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30. Azher, Z. L., Vaickus, L. J., Salas, L. A., Christensen, B. C. & **Levy, J. J.** *Development of Biologically Interpretable Multimodal Deep Learning Model for Cancer Prognosis Prediction*. ACM/SIGAPP SAC 2022.
31. Haudenschild, C., Vaickus, L. & **Levy, J.** *Configuring a federated network of real-world patient health data for multimodal deep learning prediction of health outcomes*. ACM/SIGAPP SAC 2022.
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33. Farhadi F, Barnes M, Sugito H, Sin J, Henderson E, **Levy J**. Applications of Artificial Intelligence in Orthopaedic Surgery. *Frontiers in Medical Technology (2022).*
34. Greenburg J, Lu Y, Lu S, Kamau U, Hamilton R, Pettus J, Preum S, Vaickus L, **Levy J**. Development of an Interactive Web Dashboard to Facilitate the Reexamination of Pathology Reports for Instances of Underbilling of CPT Codes. *Pathology Informatics (2022)*
35. Fatemi M, Feng E, Sharma C, Azher Z, Goel T, Ramwala O, Palisoul S, Barney R, Perreard L, Kolling F, Salas L, Christensen B, Tsongalis G, Vaickus L, **Levy J**. Inferring Spatial Transcriptomics Markers from Whole Slide Images to Characterize Metastasis-Related Spatial Heterogeneity of Colorectal Tumors: A Pilot Study. *Pathology Informatics, 2023*
36. Ahzer Z, Suvarna A, Chen J, Zhang Z, Christensen B, Salas L, Vaickus L, **Levy J**. Assessment of Emerging Pretraining Strategies in Interpretable Multimodal Deep Learning for Cancer Prognostication. *BioData Mining, 2023.*
37. Ahzer Z, Fatemi M, Lu Y, Srinivasan G, Diallo A, Christensen B, Salas L, Kolling F, Perreard L, Palisoul S, Vaickus L, **Levy J.** Spatial Omics Driven Crossmodal Pretraining Applied to Graph-based Deep Learning for Cancer Pathology Analysis. *Pacific Symposium on Biocomputing (2023).*
38. Srinivasan, G, Davis M, LeBoeuf M, Fatemi M, Azher Z, Lu Y, Diallo A, Montivero M, Kolling F, Perrard L, Salas L, Christensen B, Palisoul S, Tsongalis G, Vaickus L, Preum S, **Levy J**. Potential to Enhance Large Scale Molecular Assessments of Skin Photoaging through Virtual Inference of Spatial Transcriptomics from Routine Staining. *Pacific Symposium on Biocomputing (2023).*
39. Co-senior: Davis M*, Srinivasan G*, Chacko R, Chen S, Suvarna A, Vaickus L, Torres V, Hodge S, Chen E, Preum S, Samkoe K, Christensen B, LeBoeuf M**, **Levy J****. A deep learning algorithm to detect cutaneous squamous cell carcinoma on frozen sections in Mohs micrographic surgery: a retrospective assessment. *Experimental Dermatology (2023)*
40. Co-senior: Chacko R, Davis M, **Levy J***, LeBoeuf M*. Integration of a deep learning basal cell carcinoma detection and tumor mapping algorithm into the Mohs micrographic surgery workflow: a simulated, retrospective study. *JAAD International (2024)*
41. Vaickus LJ, Kerr DA, Torres JMV, **Levy J**. Artificial Intelligence Applications in Cytopathology. *Surgical Pathology Clinics* (2024)
42. Fatemi M*, Lu Y*, Diallo AB, Srinivasan G, Azher ZL, Christensen BC, Salas LA, Tsongalis GJ, Palisoul SM, Perreard L, Kolling FW, Vaickus LJ, **Levy J**. An Initial Game-Theoretic Assessment of Enhanced Tissue Preparation and Imaging Protocols for Improved Deep Learning Inference of Spatial Transcriptomics from Tissue Morphology. *Briefings in Bioinformatics (2024).*
43. Vaickus L, Kerr D, Velez Torres J, **Levy J**. Artificial Intelligence Applications in Cytopathology: Current State of the Art. *Surgical Pathology Clinics (2024)*
44. Lu Y, …, **Levy J.** Integrative Co-Registration of Elemental Imaging and Histopathology for Enhanced Spatial Multimodal Analysis of Tissue Sections through TRACE. Bioinformatics Advances (2025).
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of Inferring Spatial Transcriptomics from Single-Cell Histological Patterns for Studying Colon Cancer Tumor Heterogeneity. BIOSTEC 2025.

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55. Torres V, Hodge S, Chen E, **Levy J**, Vaickus L, LeBoeuf M, Samkoe K. Rapid tumor margin analysis using paired-agent imaging to guide Mohs micrographic surgery. in *Proc. of SPIE Vol* vol. 11943 1194304–1 (2022)
56. Torres V, Hodge S, Chen E, **Levy J**, Vaickus L, LeBoeuf M, Samkoe K. Whole-Tissue Margin Evaluation for Mohs Surgery Using Paired-Agent Imaging. *Optica Biophotonics Congress: Optics in the Life Sciences (2023)*
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60. Levis M, **Levy J**, Dufort V, Gobbel G, Watts B, Shiner B. Leveraging unstructured electronic medical record notes to derive population-specific suicide risk models. *Psychiatry Research* (2022).
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1. **Levy J,** Jackson C, Haudenschild C, Christensen B, Vaickus L**.** Pathflow-MixMatch for Whole Slide Image Registration: An Investigation of a Segment- Based Scalable Image Registration Method
2. **Levy J**, Bobak C, Christensen B, Vaickus L, O'Malley J. GCN4R: Latent Position of Actors in Social Networks with Graph Neural Networks
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6. **Levy J**, et al. A Comparison of CT/RNASeq and MRI/RNASeq-Based Radiogenomics for Staging Muscle-Invasive Bladder Cancer: A Pilot Study
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8. McNutt B, Thompson J, Hunt B, Song A, Christensen B, Moore J, Vaickus L, **Levy J**. Federated Learning for Multicenter Collaborations of Small Biomedical Research Institutions: A Framework for Navigating Challenges and Realizing Opportunities
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13. Krogman L, …, **Levy J*.** Effects of Host Immunosuppression on Patient Outcomes by Treatment Type in Patients with Cutaneous Squamous Cell Carcinoma
14. Anderson E, Srinivasan G, …, **Levy J**. Association of Deep Learning-Derived Placental Villi Histologic Features with Maternal and Infant Characteristics in the New Hampshire Birth Cohort Study
15. Srivastava A, …, **Levy J**. Integration of Elemental Imaging and Spatial Transcriptomic Profiling for Proof-of Concept Metals-Based Pathway Analysis of Colon Tumor Microenvironment
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Abstracts*:

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1. Gui J, …, **Levy J**, Shiner S. Words matter: an association study between natural language processing of clinical mental health notes and suicide risk.
2. Ismail A, …, **Levy J,** et al. Identifying pathology residency candidates with lower agreement among their evaluators
3. Wainman L, …, **Levy J**, et al. Whole Exome Sequencing of Urine Cytology Samples for Early Detection of Recurrence
4. Yao K, **Levy J**. Implementation of Cytologic Reporting Systems During Laboratory Information System Changes Perspective from a Large Health System in The United States with Three Independent Laboratories

Additional Information

Select manuscripts in preparation:

First Author

1. **Levy J**, et. al. HistoBayes: An Interactive Web Application for Bayesian Deep Learning on Histopathology, with Applications in Cytopathology
2. **Levy J**, et. al. Hyperbolic MethylMaps: Hyperbolic Embeddings Pseudotime Bulk DNA Methylation
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5. **Levy J**, LeBoeuf M, Christensen C, Vaickus L. Quantitative machine learning method to assess the quality of frozen specimens during intraoperative margin assessments
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7. **Levy J**, Christensen C, Vaickus L, Shah E. Multicenter Prospective Validation of Anorectal Manometry AI Technologies
8. **Levy J** *, Ratna S*, et al. PyNuclei: A Software Framework for Nuclei Segmentation
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10. **Levy J**, Glaser A, et. al. DNA Methylation Brain Cell-Type Adjustment and Meta-Analysis Reveals Important Markers of Huntington's Disease
11. **Levy J**, et. al. Turing Test 2.0: Improving Clinical Applicability of Visual Inspection of Virtual Staining Technologies
12. **Levy J**, et. al. On the Potential for Selection Bias using Digital Spatial Profiling Technologies
13. **Levy J**, et. al. Perspectives on Technology and Stakeholder Readiness Stress Testing
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20. Kerr D*, **Levy J***, Goyette E, et. al. Digital Spatial Profiling Reveals Signatures of Dupuytren Treatment

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21. Anderson E, …, **Levy J**. Quantitative Deep Learning Approach to Assess Risk of Choriocarcinoma from Products of Conception
22. Davis M, …, **Levy J**. Expanding diversity of dermatological images, an opinion piece
23. Davis M, …, **Levy J**. AI in Dermatology
24. Cronin T, …, **Levy J**. Machine Learning Approaches to Develop Quantitative Histomorphological Placental Signatures of Abnormal Fetal Development: A Comprehensive Review
25. Pietrowicz S, …, **Levy J**. EDIT AI: Internal Evaluation of Pilot Remote Machine Learning and Healthcare High School Internship Program
26. Pietrowicz S, …, **Levy J**. Mitigating Bias In AI-Augmented Clinical Decision Making by Diversifying the STEM Workforce through Engaging Students from Underserved Backgrounds through a Remote Instruction Model
27. Pietrowicz S, …, **Levy J**. Evaluation of an elective medical school AI enrichment course
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29. McFadden J, …, **Levy J**. A Survey on Cell Phone Technologies Outfitted to Study Fluorescence Spectra
30. Lu Y, …, **Levy J**. Comparison of Deep Learning Approaches for Various Natural Language Processing Tasks on Pathology Reports
31. Lu Y, …, **Levy J**. Position paper on the role of generative modeling on scientific communication
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33. Lu Y, …, **Levy J**. Case report evaluation through generative modeling: a single-institution experience
34. Lu Y, …, **Levy J**. Generative text modeling of pathologist case reports: how well do you know your colleagues?
35. Hudson T, …, **Levy J**. Degenerate Oligo Optimization with Randomized Synthesis for Low-Cost Library Synthesis for CRISPR Off-Target Screening
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48. Goel T, …, **Levy J**. Exploring effective cell graph neural network training strategies for high resolution real-time intraoperative histological margin assessment
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52. Lu Y, …, **Levy J**. Tumor Cell Prediction is Improved through Immunofluorescence Tagging and Graph Neural Networks
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54. Suvarna A, …, **Levy J**. Development of Cell Phone Application for Intraoperative Tissue Grossing
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56. Levis M, …, **Levy J**. Network measures over time for SÉANCE Terms to Characterize Suicide at Population Scale
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59. Gullet J, …, **Levy J**. Review and Tutorial of Hierarchical Bayesian Analyses in Pathology and Potential Machine Learning Applications
60. Srinivasan G, …, Karrs J***, Levy J***. Heme-Counter
61. Ratna S, …, **Levy J**. Graph Neural Networks for Staging NASH
62. Ramwala O, …, **Levy J**. Improvements in Virtual Trichrome Staining through Contextual Feature Mining
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74. Satti K, …, **Levy J**, et. al. The Relationship between BMI and Inflammation is Modified through Vitamin D Intake
75. Satti K, …, **Levy J**, et. al. The Relationship between Pediatric BMI, Microbiome Community Composition, T Cell Repertoire
76. Carter J, …, **Levy J**, et. al. Impact of Electrodessication and Curettage for Treating Moderately Differentiated Cutaneous Squamous Cell Carcinomas
77. Kerr D, Goyette E, **Levy J**, et. al. Decalcification Protocol with Optimal Timing and Maximal Tissue Preservation for High-Quality Histologic Examination and Molecular Analysis
78. Romero A**, Levy J,** et. al. Platelet Age is Not Associated with Increased Transfusion Reaction Rates
79. Salem I, …, **Levy J**, et. al. PpIX measurements study
80. Hamilton R, …, **Levy J**. AutoML: Investigation of Neural Architecture Search Methods for Digital Pathology Classification Systems
81. Hamilton R, …, **Levy J**, Vaickus L. Signet Ring Cell Carcinoma Evaluation through Deep Learning Approach

82. Dunkle A, **Levy J**, et. al. Influenza Test Positivity Rates From 2019-2020 with the Onset of Social Distancing Due To COVID
83. Simoes N, …, **Levy J,** et al**.**. Thyroid Suspicious Neoplasms
84. Glass R, **Levy J**, et. al. Comparing NC Ratios between Eyeball and Diameter-Based Measurements
85. **Levy J**, et. al. Transfer Learning for Fracture Detection from CT Scans
86. Greene C, ..., **Levy J**. Opportunities and obstacles for deep learning in biology and medicine, 2nd update.

Conference Sessions in Preparation / Under Review:

1. Carly A. Bobak, Courtney T. Schiebout, Sean McOsker, Yifan Zhao, Samuel Lefkowitz, Brady Hunt, Derek Williamson, Joseph Romano, Kristine A. Giffin, Christian Darabos, **Joshua Levy**, Jason H. Moore, Dennis P. Wall. *HUMAN INTRIGUE: BIG QUESTIONS WITH BIG DATA*
2. Samuel Lefkowitz, **Joshua Levy**, Carly A. Bobak. Biological and Medical Applications of Networks and Graph Theory
3. Carly A. Bobak, Courtney T. Schiebout, Sean McOsker, Yifan Zhao, Samuel Lefkowitz, Brady Hunt, Kristine A. Giffin, **Joshua Levy**, and Christian Darabos. STORYTELLING WITH DATA SCIENCE