

SUNDEEP CHAKLADAR

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EDUCATION

WashU School of Medicine

MD Student | Distinguished Student Scholar
Expected Graduation: May 2028

St. Louis, MO
Aug 2024-Present

Massachusetts Institute of Technology

B.S. in Biology, Minor in Science, Technology, & Society
GPA: 4.9/5.0 | Honors: Phi Beta Kappa

Cambridge, MA
Aug 2020-May 2024

RESEARCH EXPERIENCE

WashU School of Medicine, Medical Student Researcher

Advisors: Dr. David Brogan, Dr. Jennifer Strahle, Dr. Pooya Hosseinzadeh
Developing AI-based pipelines for automated fracture detection, disease progression analysis, clinical risk stratification, and longitudinal recovery assessment.

St. Louis, MO
Aug 2024-Present

Lourido Lab, Whitehead Institute for Biomedical Research, Undergraduate Researcher

Advisors: Dr. Sebastian Lourido, Dr. Haley Licon, Dr. Aditi Shukla
Built machine learning-based, microscopy image analysis pipelines to characterize toxoplasma gondii's kinome, motility, and life cycle

Cambridge, MA
Aug 2020-May 2024

Massachusetts General Hospital, Psychiatry Clinical Research Intern

Advisors: Dr. Cheryl Yunn Shee, Dr. Jacqueline Clauss
Designed a geocoding algorithm to identify Boston neighborhoods that required more comprehensive access to mental health clinicians

Boston, MA
Jan-Mar 2024

Brigham and Women's Hospital, Data Science and Medical Research Intern

Advisor: Dr. Christopher Baugh
Extracted clinical data and identified how to efficiently triage febrile cancer patients presenting to the emergency department

Boston, MA
May-Sept 2023

Kellis Lab, MIT Computer Science and Artificial Intelligence, Undergraduate Researcher

Advisors: Dr. Manolis Kellis, Dr. Lei Hou
Developed machine learning models to predict the effects and progression of disease-induced inflammation across various patient populations

Cambridge, MA
Aug 2022-Aug 2023

Division of Infectious Diseases, Lundquist Institute, Summer Research Fellow

Advisor: Dr. Priya Uppuluri
Created a presentation and literature review regarding the morphology, invasion, and pathogenesis of the SARS-CoV-2 virus

Torrance, CA
June-Aug 2020

WORK EXPERIENCE

MIT Emergency Medical Services, EMT-B, Scheduling Officer, Training Officer

Leveraged knowledge of emergency medicine to assess, treat, and transport patients.
Created shift schedules and organized training to maintain member certification.

Boston, MA
Jan 2022-May 2024

MassHealth, Clinical Research Intern

Investigated and contributed to proposals aimed at decreasing health disparities and expanding healthcare access to Massachusetts' undocumented population

Boston, MA
May-Sept 2023

Maine Department of Health and Human Services, Data Analytics Intern Applied computational methods to analyze the effects of MaineCare on the accessibility of providers, health insurance, and affordable medical aid	Augusta, ME Jan-April 2023
UCSF Accelerated Digital Clinical Ecosystem, Fellow, Senior Fellow Led group focused on connecting with digital health companies and integrating their operations into a collaborative workspace for digital software tools	San Francisco, CA Aug-Nov 2022 Jan-May 2024
Wealth for Health, Intern Collaborated with physicians and dieticians to improve the efficiency and automation of the digital health company's virtual interface and data analytics	Wichita, KS July-Oct 2022

PUBLICATIONS

1. **Chakladar S**, Pereira DE, Tang N, Siddabattula R, Hosseinzadeh P. Development and Validation of an Automated Pipeline for the Detection of Monteggia Fracture Dislocations in Pediatric Radiographs. *J Pediatr Orthop.* Published online December 15, 2025. doi:10.1097/BPO.0000000000003196
2. Joseph K, Bui TT, Yahanda AT, Gupta V, Vogl S, Yakdan S, Galla JT, Ruiz-Cardozo MA, Barot K, **Chakladar S**, Poulin N, Challagundla A, Ng J, Krishnan A, Brehm S, Benedict B, Clohisu JC, Pallotta N, Gulta M, Beuman B, Hills J, Kelly M, Hafez D, Greenberg J, Ray W, Molina CA. Mechanical Failures as Predicted by Achieving Local vs Global T4-L1 Hip Axis Goals: A Single Center Experience. *Spine (Phila Pa 1976)*. Published online July 11, 2025. doi:10.1097/BRS.0000000000005450
3. **Chakladar S**, Dy CJ, Brogan DM. Accuracy of the Automated Range of Motion Observer and Reporter Software for Fully Automated Joint Measurement From Patient Videos. *J Am Acad Orthop Surg Glob Res Rev.* 2025;9(7):e25.00088. Published 2025 Jul 8. doi:10.5435/JAAOSGlobal-D-25-00088
4. Joseph K, Bui T, Yahanda AT, Yakdan S, Vogl S, Cardozo MR, Galla JT, Leatherman Z, Poulin N, **Chakladar S**, Brehm S, Benedict B, Gupta, M, Pallotta N, Hills J, Kelly M, Greenberg J, Neuman B, Ray W, Molina CA.. Validation and clinical application of the $\Delta C2$ pelvic angle - $\Delta C2$ tilt = Δ pelvic tilt equation for predicting pelvic tilt in spinal deformity surgery. *Neurosurg Focus.* 2025;58(6):E6. doi:10.3171/2025.3.FOCUS2554
5. Licon H, Giuliano C, **Chakladar S**, Shallberg L, Waldman B, Hunter C, Lourido S. A positive feedback loop controls Toxoplasma chronic differentiation. *Nat Microbiol* 8, 889–904 (2023). <https://doi.org/10.1038/s41564-023-01358-2>
6. Chan AW, Broncel M, Haseley N, **Chakladar S**, Andree E, Herneisen AL, Shortt E, Treeck M, Lourido S. Analysis of CDPK1 targets identifies a trafficking adaptor complex that regulates microneme exocytosis in Toxoplasma. *eLife*12:RP85654. <https://doi.org/10.7554/eLife.85654.1>

PRESENTATIONS

1. Novel Computational Approaches for the Study of Toxoplasma Gondii
MIT Biology Undergraduate Research Symposium | Oral Presentation | 2 Feb 2023

ABSTRACTS

1. Pan S, Limbrick O, Koneru S, **Chakladar S**, Strahle JM. Re-evaluating the approach to preclinical neonatal IVH models: insights from longitudinal data obtained from 157 rats. Joint Section on Pediatric Neurological Surgery 2025 Annual Meeting, Memphis, TN, December 2-6, 2025. (Oral presentation)
2. **Chakladar S**, Pereira DE, Tang N, Siddabattula R, Hosseinzadeh P. Development and Validation of an Automated Pipeline for the Detection of Monteggia Fracture Dislocations in Pediatric Radiographs. WashU Medicine EXPLORE Symposium, St. Louis, MO, October 15 2025. (Printed poster)
3. **Chakladar S**, Pan S, Halupnik G, Strale J. A Deep Learning Model For Ventricle Segmentation, 3D Reconstruction, And Ventriculomegaly Detection In Rodents. Congress of Neurological Surgeons 2025 Annual meeting, Los Angeles, CA, October 11-15 2025. (Printed poster)

4. Joseph K, Bui T, Yahanda T, et al. Predictors Of T4-L1 Hip Axis Error After ASD Surgery: Understanding Drivers Of T4-L1 Mismatch And L1PA Error. Congress of Neurological Surgeons 2025 Annual meeting, Los Angeles, CA, October 11-15 2025. (Oral presentation)
5. Joseph K, Bui T, Yahanda T, et al. Anterior Thoracic Malalignment Drives Mechanical Failure After ASD Surgery: The Predictive Value Of T4-L1 Hip Axis Error Directionality. Congress of Neurological Surgeons 2025 Annual meeting, Los Angeles, CA, October 11-15 2025. (Printed poster)
6. Joseph K, Bui T, Yahanda T, et al. Extending The T4-L1 Hip Axis Framework: Predictive Values Of Alignment Error In Short And Long Fusions For Adult Spinal Deformity. Congress of Neurological Surgeons 2025 Annual meeting, Los Angeles, CA, October 11-15 2025. (Printed poster)
7. Joseph K, Bui T, Yahanda T, et al. Pelvic Fixation Failure Is Rare And Is Predicted By Construct Magnitude And Residual Deformity: A Matched Cohort Analysis. Congress of Neurological Surgeons 2025 Annual meeting, Los Angeles, CA, October 11-15 2025. (Oral presentation)
8. Hallak H, Connor M, Chakladar S, Nassirinia E, Zipfel G, Osbun J. Treatment of Brain Arteriovenous Malformations in Patients With Hereditary Hemorrhagic Telangiectasia: A Tertiary Referral Center Experience. Congress of Neurological Surgeons 2025 Annual meeting, Los Angeles, CA, October 11-15 2025. (Printed poster)
9. Hallak H, Connor M, **Chakladar S**, Nassirinia E, Zipfel G, Osbun J. Treatment of Brain Arteriovenous Malformations in Patients with Hereditary Hemorrhagic Telangiectasia: A Tertiary Referral Center Experience. Society of NeuroInterventional Surgery 2025 Annual Meeting, Nashville, TN, July 14-18, 2025. (Eposter)

AWARDS AND HONORS

Best Basic Science Poster on the Data Science Track – Congress of Neurological Surgeons – 2025

Awarded for: A Deep Learning Model for Ventricle Segmentation, 3D Reconstruction, And Ventriculomegaly Detection in Rodents

College Sports Communicators, Academic All American – MIT Varsity Men’s Tennis – 2023

Recognized for outstanding athletic and academic achievement

Intercollegiate Tennis Association Scholar Athlete – MIT Varsity Men’s Tennis – 2022, 2023, 2024

Varsity scholar athlete with a GPA above 3.5