Aris **Paschalidis**

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Education

University of Massachusetts Chan Medical School *Worcester, MA*
M.D. Candidate *Aug. 2022 - Present*

Brown University *Providence, RI*
B.S. in Computational Biology, Magna Cum Laude, GPA 4.0 *Sep. 2017 - May 2021*

Boston University *Boston, MA*
Took classes while in high school, GPA 3.98 *Sep. 2015 - May 2017*

Research Experience

Duke University School of Medicine *Durham, NC*
Department of Orthopaedic Surgery — Li Lab *August 2024 - Present*
- Investigated how pharmacologic and non-pharmacologic modalities affect peripheral nerve regeneration following injury.
- Developed large language model (LLM) based methods to automate literature reviews.

University of Massachusetts Chan Medical School *Worcester, MA*
Program in Digital Medicine — Lin Lab *June 2023 - Present*
- Developed deep neural network–based methods to estimate age from electrocardiograms (ECGs) and machine learning models to predict the risk of future disease.

Brown University *Providence, RI*
Center of Computational Molecular Biology — Bailey Lab *January 2020 - August 2022*
- Worked as an undergraduate lab member and then as a bioinformatician following graduation.
- Developer for coiaf, a package to estimate the number of malarial strains a patient is infected with
- Developer for MIPTools, a suite of computational tools for molecular inversion probe design, data processing, and analysis.
- Developer for miplicorn, a unified framework for molecular inversion probe (MIP) and amplicon-targeted sequencing analysis following micro haplotyping or variant calling.

Massachusetts General Hospital *Boston, MA*
Department of Orthopaedic Surgery *May 2019 - September 2020*
- Worked as a research intern in the trauma department, shadowing doctors and conducting research primarily with Dr. Heng.
- Focused on examining associations between mental health scores and physical function scores of patients who had recently undergone total knee or hip replacements.

Selected Honors & Awards

2025 **Invited Speaker**, Transition to 3rd Year Ceremony
2024 **Scholarship**, New England Hellenic Medical and Dental Society
2024 **Honorable Mention**, Massachusetts Medical Society Research Poster Symposium

Selected Leadership & Community Outreach

Interest Group Leader *UMass Chan Medical School*
Orthopedic Surgery Interest Group *Apr. 2023 - Apr. 2024*

Volunteer Firefighter & EMT *Scituate, RI*
Hope & Jackson Fire Company *Sep. 2020 - Nov. 2021*

Selected Publications

Dynamic Lifetime Risk Prediction of Alzheimer's Disease with Longitudinal Cognitive Assessment Measurements
Ding H., Ye Z., Paschalidis A., Bennett D. A., Au R., Lin H.
Alzheimer's & Dementia. 2025;21(3):e70055. doi: 10.1002/alz.70055.

Time to Achieve the Minimal Clinically Important Difference in Primary Total Hip Arthroplasty: Comparison of Anterior and Posterior Surgical Approaches
Salimy M. S., Paschalidis A., Dunahoe J. A., Chen A. F., Alpaugh K., Bedair H. S., Melnic C. M.
The Journal of Arthroplasty. 2024;39(9):S314–S321. doi: 10.1016/j.arth.2024.04.038.

The Not-So-Distant Future or Just Hype? Utilizing Machine Learning to Predict 30-Day Post-Operative Complications in Laparoscopic Colectomy Patients
Velmahos C. S., Paschalidis A., Paranjape C. N.
The American Surgeon. 2023;89(12):5648–5654. doi: 10.1177/00031348231167397.

***coiaf*: Directly Estimating Complexity of Infection with Allele Frequencies**
Paschalidis A., Watson O. J., Aydemir O., Verity R., Bailey J. A.
PLOS Computational Biology. 2023;19(6):e1010247. doi: 10.1371/journal.pcbi.1010247.

Patient-Reported Mental Health Score Influences Physical Function After Primary Total Knee Arthroplasty
Melnic C. M., Paschalidis A., Katakam A., Bedair H. S., Heng M., Chen A. F., O'Brien T. M., Sisodia R. C.
The Journal of Arthroplasty. 2021;36(4):1277–1283. doi: 10.1016/j.arth.2020.10.031.

Predictive Models of Mortality for Hospitalized Patients With COVID-19: Retrospective Cohort Study
Wang T., Paschalidis A., Liu Q., Liu Y., Yuan Y., Paschalidis I. C.
JMIR Medical Informatics. 2020;8(10):e21788. doi: 10.2196/21788.

Regression and Classification Using Optimal Decision Trees
Bertsimas D., Dunn J., Paschalidis A.
IEEE MIT Undergraduate Research Technology Conference (URTC). 2017:1–4. doi: 10.1109/urtc.2017.8284195.