

NICHOLAS J. MATIASZ

NICHOLASMATIASZ@GMAIL.COM

PROFESSIONAL SUMMARY

Scientist and engineer with training in medical informatics, electrical engineering, and contemplative science. Thirteen years of experience in research, technical writing, and web development. Doctoral-level skills in communication and causal reasoning.

EDUCATION

UCLA 2013–18

- Ph.D., Bioengineering (Medical Informatics); GPA: 3.81
- Thesis: *Planning Experiments with Causal Graphs*
- M.S., Bioengineering (Medical Informatics); GPA: 3.81

Tufts University 2006–12

- M.S., Electrical Engineering; GPA: 3.60
- B.S. *cum laude*, Electrical Engineering; GPA: 3.37

EXPERIENCE

Center for Contemplative Research 2020–now

Scientific Program Director (volunteer)

- Oversee longitudinal studies involving professional contemplatives and scientists

Los Angeles Department of Water and Power 2019–now

Electrical Engineering Associate — Power System Planning Division

- Co-designed and co-authored the department's first Distribution Resource Plan
- Provided technical support to The Los Angeles 100% Renewable Energy Study (LA100)

Office of Los Angeles Mayor Eric Garcetti 2018–19

Senior Project Manager — Innovation Team

- Designed, implemented, and managed employment-related projects with city departments

UCLA 2013–18

Graduate Student Researcher — Medical Informatics & Neuroscience

- Developed software for automated causal reasoning and experiment planning
- Developed the ResearchMaps web app, which has over 600 users on four continents
- Co-authored eight research manuscripts, three funding proposals, four conference posters

EXPERIENCE (CONT.)

Massachusetts General Hospital 2012–13

Research Technician — Neurology

- Developed computing infrastructure and data-analysis software
- Designed and built electrode instrumentation for neuroscience research
- Managed procurement of over \$0.5M in scientific equipment

Tufts University 2009–12

Research Assistant — Electrical Engineering, Computer Science, & Psychology

- Developed seizure-prediction algorithm based on EEG analysis
- Designed novel interface and intonation feature for electrolarynx devices
- Collected and analyzed EEG and MRI data from human participants
- Served as project sponsor for undergraduates' senior design project

BOOK CHAPTER

- N. J. Matiasz and B. A. Wallace (forthcoming). Contemplative science: Expanding the scope of empiricism to increase the convergence of evidence. In *Routledge International Handbook of Research Methods in Spirituality and Contemplative Studies*.

JOURNAL AND CONFERENCE ARTICLES

- N. J. Matiasz, J. Wood, A. J. Silva (in preparation). Quantifying convergence and consistency.
- J. Wood, N. J. Matiasz, A. J. Silva, W. Hsu, W. Wang (in preparation). Inside the “mind” of the robot scientist.
- A. Milicevic, C. Seeger, N. J. Matiasz, E. Natanya, S. Robertson-Malt, S. Abbott, T. Torresi, E. McDougal, B. A. Wallace (submitted). Reintroducing conation: A path to mental health and genuine well-being.
- J. Wood, N. J. Matiasz, A. J. Silva, W. Hsu, A. Abyzov, W. Wang (2022). OpBerg: Discovering causal sentences using optimal alignments. In *International Conference on Big Data Analytics and Knowledge Discovery (DaWaK)*.
- N. J. Matiasz*, J. Wood*, W. Wang, A. J. Silva, W. Hsu (2021). Experiment selection in meta-analytic piecemeal causal discovery. In *IEEE Access* 9:97929–97941.
- N. J. Matiasz*, J. Wood*, P. Doshi*, W. Speier, B. Beckemeyer, W. Wang, W. Hsu, A. J. Silva (2018). ResearchMaps.org for integrating and planning research. In *PLOS One* 13(5):e0195271.
- J. I. Garcia-Gathright, N. J. Matiasz, C. Adame, K. V. Sarma, L. Sauer, N. F. Smedley, M. L. Spiegel, J. Strunck, E. B. Garon, R. K. Taira, D. R. Aberle, A. A. T. Bui (2018). Evaluating Casama: Contextualized semantic maps for summarization of lung cancer studies. In *Computers in Biology and Medicine* 92:55–63.

JOURNAL & CONFERENCE ARTICLES (CONT.)

- N. J. Matiasz, J. Wood, W. Wang, A. J. Silva, W. Hsu (2017). Translating literature into causal graphs: Toward automated experiment selection. In *Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM)*.
- N. J. Matiasz, J. Wood, W. Wang, A. J. Silva, W. Hsu (2017). Computer-aided experiment planning toward causal discovery in neuroscience. In *Frontiers in Neuroinformatics* 11:12.
- J. I. Garcia-Gathright, N. J. Matiasz, E. B. Garon, D. R. Aberle, R. K. Taira, A. A. T. Bui (2016). Toward patient-tailored summarization of lung cancer literature. In *Proceedings of the IEEE International Conference on Biomedical and Health Informatics (IEEE BHI)*.

PRESENTATIONS

- Planning experiments with causal graphs (4 May 2018). *UCLA Ph.D. thesis defense*.
- Translating literature into causal graphs: Toward automated experiment selection (16 November 2017). *IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM)*.
- ResearchMaps.org for integrating evidence (27 October 2017). *UCLA ICLM Young Investigator Lecture Series*.
- Building the brain of a robot scientist (4 May 2017). *UCLA Career Development Conference*.
- ResearchMaps.org: Planning experiments by quantifying and visualizing empirical evidence and hypothetical assertions (28 April 2017). *2nd QCBio Symposium: Exploring the Frontiers of Biomedical Big Data*.
- Building the brain of a robot scientist (25 April 2017). *UCLA Grad Slam Finals*.

INTERVIEW

- B. Newell (Host). (11 February 2023). Nick Matiasz: Center for Contemplative Research (season 2, episode 3) [Audio podcast episode]. In *Somatic Primer Podcast*. Somatic Primer. <https://somaticprimer.com/episodes/>

CONFERENCE POSTERS

- N. J. Matiasz, W. Chen, A. J. Silva, W. Hsu (2016). MedicineMaps: a tool for mapping and linking evidence from experimental and clinical trial literature. Presented at *40th Annual Symposium of the American Medical Informatics Association (AMIA)*.
- N. J. Matiasz, J. Wood, W. Hsu, A. J. Silva (2016). ResearchMaps.org: A free web app for integrating and planning experiments. Presented at *15th Annual Molecular and Cellular Cognition Society (MCCS) Symposium*.

CONFERENCE POSTERS (CONT.)

- N. J. Matiasz, A. J. Silva, W. Hsu (2015). Synthesizing clinical trials for evidence-based medicine: A representation of empirical and hypothetical causal relations. Presented at *6th Annual Joint Summits on Translational Science: AMIA Summit on Clinical Research Informatics*.
- N. J. Matiasz, W. Hsu, A. J. Silva (2014). ResearchMaps.org, a free web application to track causal information in biology. Presented at *13th Annual Molecular and Cellular Cognition Society (MCCS) Symposium*.

PROFESSIONAL & ACADEMIC MEMBERSHIPS

- Member, Board of Advisors, Tufts University Electrical & Computer Engineering Mentor Network (2023–now)
- Member, IEEE Eta Kappa Nu (HKN), Delta Epsilon Chapter (2010–now)

SKILLS*Research*

- contemplative science, meta-science, causal discovery, renewable energy

Communication

- writing, copyediting, typography, presentations, web design

Software

- JavaScript, HTML, CSS, Python, Neo4j, PostgreSQL, Git, InDesign

AWARDS & FUNDING

- UCLA Dissertation Year Fellowship (2017–18)
- UCLA Department of Bioengineering Supplemental Fellowship (2017)
- NIH/NCATS UCLA CTSI Pathfinder Award (UL1TR000124, 2016)
- NIH Medical Imaging Informatics Training Program (T32 EB016640, 2014–16)
- UCLA Graduate Division University Fellowship (2013–14)
- UCLA Graduate Division Registration Fee Grant (2013–14)
- Tufts University Dean's Grant for Senior Design Project (2009)
- Raymond F. Gates Jr. Memorial Scholarship (2006, 2007, 2008, 2009)
- Computer Science, Engineering, & Math Scholars (CSEMS) Scholarship (2006–08)
- Tufts University Loudspeaker Design Contest: First Place (2007)