

# NICHOLAS J. MATIASZ

NICHOLASMATIASZ@GMAIL.COM

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## 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.

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## 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

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## EXPERIENCE

Center for Contemplative Research 2020–now

*Scientific Program Director (volunteer)*

- Co-develop and co-manage the organization's research program

Los Angeles Department of Water and Power 2019–now

*Electrical Engineering Associate — Power System Planning Division*

- Co-design and implement the Power System's Climate Resiliency Program
- 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

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**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

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**BOOK CHAPTER**

- Matiasz, Nicholas J., and B. Alan Wallace. 2024. “Contemplative Science: Expanding the Scope of Empiricism to Increase the Convergence of Evidence.” In *The Routledge Handbook of Research Methods in Spirituality and Contemplative Studies*, edited by Bernadette Flanagan and Kerri Clough, 1st ed., 73–88. London: Routledge. <https://doi.org/10.4324/9781003341598-9>.

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**JOURNAL AND CONFERENCE ARTICLES**

- Wood, Justin, Nicholas J. Matiasz, Alcino J. Silva, William Hsu, and Wei Wang. In preparation. “Inside the ‘Mind’ of the Robot Scientist.”
- Matiasz, Nicholas J., Justin Wood, Alcino J. Silva. Forthcoming. “Quantifying Convergence and Consistency.” *European Journal of Neuroscience*.
- Wood, Justin, Nicholas J. Matiasz, Alcino J. Silva, William Hsu, Alexej Abyzov, and Wei Wang. 2022. “OpBerg: Discovering Causal Sentences Using Optimal Alignments.” In *Big Data Analytics and Knowledge Discovery: 24th International Conference, DaWaK 2022, Vienna, Austria, August 22–24, 2022, Proceedings*, edited by Robert Wrembel, Johann Gamper, Gabriele Kotsis, A. Min Tjoa, and Ismail Khalil, 17–30. Lecture Notes in Computer Science, vol. 13428. Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-031-12670-3\\_2](https://doi.org/10.1007/978-3-031-12670-3_2).
- Matiasz, Nicholas J.,\* Justin Wood,\* Wei Wang, Alcino J. Silva, and William Hsu. 2021. “Experiment Selection in Meta-Analytic Piecemeal Causal Discovery.” *IEEE Access* 9:97929–41. <https://doi.org/10.1109/ACCESS.2021.3093524>.
- Matiasz, Nicholas J.,\* Justin Wood,\* Pranay Doshi,\* William Speier, Barry Beckemeyer, Wei Wang, William Hsu, and Alcino J. Silva. 2018. “ResearchMaps.org for Integrating and Planning Research.” *PLoS One* 13(5): e0195271. <https://doi.org/10.1371/journal.pone.0195271>.

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#### JOURNAL & CONFERENCE ARTICLES (CONT.)

- Garcia-Gathright, Jean I., Nicholas J. Matiasz, Carlos Adame, Karthik V. Sarma, Lauren Sauer, Nova F. Smedley, Marshall L. Spiegel, Jennifer Strunck, Edward B. Garon, Ricky K. Taira, Denise R. Aberle, and Alex A. T. Bui. 2018. "Evaluating Casama: Contextualized Semantic Maps for Summarization of Lung Cancer Studies." *Computers in Biology and Medicine* 92: 55–63. <https://doi.org/10.1016/j.compbiomed.2017.10.034>.
- Matiasz, Nicholas J., Justin Wood, Wei Wang, Alcino J. Silva, and William Hsu. 2017. "Translating Literature into Causal Graphs: Toward Automated Experiment Selection." In *Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM)*, 573–76. Kansas City, MO: IEEE. <https://doi.org/10.1109/BIBM.2017.8217713>.
- Matiasz, Nicholas J., Justin Wood, Wei Wang, Alcino J. Silva, and William Hsu. 2017. "Computer-Aided Experiment Planning Toward Causal Discovery in Neuroscience." *Frontiers in Neuroinformatics* 11: 12. <https://doi.org/10.3389/fninf.2017.00012>.
- Garcia-Gathright, Jean I., Nicholas J. Matiasz, Edward B. Garon, Denise R. Aberle, Ricky K. Taira, and Alex A. T. Bui. 2016. "Toward Patient-Tailored Summarization of Lung Cancer Literature. In *2016 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*, 449–52. Las Vegas, NV, USA: IEEE. <https://doi.org/10.1109/BHI.2016.7455931>.

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#### PRESENTATIONS

- Matiasz, Nicholas J. 2018. "Planning Experiments with Causal Graphs." Doctoral dissertation defense, University of California, Los Angeles, Los Angeles, May 4, 2018.
- ———. 2017. "Translating Literature into Causal Graphs: Toward Automated Experiment Selection." Paper presentation, IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM), Kansas City, MO, November 16, 2017.
- ———. 2017. "ResearchMaps.org for Integrating Evidence." Lecture, UCLA ICLM Young Investigator Lecture Series, Los Angeles, October 27, 2017.
- ———. 2017. "Building the Brain of a Robot Scientist." Conference presentation, UCLA Career Development Conference, Los Angeles, May 4, 2017.
- ———. 2017. "ResearchMaps.org: Planning Experiments by Quantifying and Visualizing Empirical Evidence and Hypothetical Assertions." Lecture, 2nd QCBio Symposium: Exploring the Frontiers of Biomedical Big Data, Los Angeles, April 28, 2017.
- ———. 2017. "Building the Brain of a Robot Scientist." Presentation, UCLA Grad Slam Finals, Los Angeles, April 25, 2017.

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#### INTERVIEW

- Newell, Bryson, host. 2023. "Nick Matiasz: Center for Contemplative Research." February 11, 2023. *Somatic Primer Podcast*. Produced by Somatic Primer. Podcast, MP3 audio, 1:16:46. <https://somaticprimer.com/episodes>.

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## CONFERENCE POSTERS

- Matiasz, Nicholas J., Wei-Ting Chen, Alcino J. Silva, and William Hsu. 2016. "MedicineMaps: A Tool for Mapping and Linking Evidence from Experimental and Clinical Trial Literature." Poster presentation, 40th Annual Symposium of the American Medical Informatics Association (AMIA), Chicago, November 14, 2016.
- Matiasz, Nicholas J., Justin Wood, William Hsu, and Alcino J. Silva. 2016. "ResearchMaps.org: A Free Web App for Integrating and Planning Experiments." Poster presentation, 15th Annual Molecular and Cellular Cognition Society (MCCS) Symposium, San Diego, CA, November 10, 2016.
- Matiasz, Nicholas J., Alcino J. Silva, and William Hsu. 2015. "Synthesizing Clinical Trials for Evidence-Based Medicine: A Representation of Empirical and Hypothetical Causal Relations." Poster presentation, 6th Annual Joint Summits on Translational Science: AMIA Summit on Clinical Research Informatics, San Francisco, March 26, 2015.
- Matiasz, Nicholas J., William Hsu, and Alcino J. Silva. 2014. "ResearchMaps.org, a Free Web Application to Track Causal Information in Biology." Poster presentation, 13th Annual Molecular and Cellular Cognition Society (MCCS) Symposium, Washington, D.C., November 13, 2014.

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## 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)

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## 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

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## 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)

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**AWARDS & FUNDING (CONT.)**

- 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)