Curriculum Vitae
Eliezer de Souza da Silva

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GScholar https://github.com/zehsilva

Eliezer Silva - The Mathematics Genealogy Project

Education:

Ph.D., Computer and Information Science
Norwegian University of Science and Technology (NTNU), Norway. 2015-2021.
Thesis: *Factorization models with relational and contextual information: Probabilistic factorization, point processes, and neural sequential models*.
Supervisor: Prof. Helge Langseth and Prof. Heri Ramampiaro | Courses in Statistics, Machine Learning, and Information Retrieval.

M.Sc., Electrical and Computer Engineering
University of Campinas (UNICAMP), Brazil. 2012-2014.
Dissertation: *Metric space indexing for nearest neighbor search in multimedia context*.
Supervisor: Prof. Eduardo Valle | Courses in Graph Theory, Machine Learning, Data Mining, and Information Retrieval.

B.Sc., Computer Engineering
Universidade Federal do Espírito Santo (UFES), Brazil. 2006-2011.
Final project: *Information Retrieval using vector space model and latent semantic indexing*.
Supervisor: Prof. Rodolfo Villaça | GPA 8.13/10.0, Final Project 9.33/10.0 (Top of the class) | Courses in Mathematics, Physics, EE, and CS.

Selected Works:

Tiago Silva; **Eliezer de Souza da Silva**; Rodrigo Barreto Alves; Luiz Max Carvalho; Amauri H Souza; Samuel Kaski; Vikas Garg; Diego Mesquita. Analyzing GFlowNets: Stability, Expressiveness, and Assessment. ICML 2024 Workshop on Structured Probabilistic Inference & Generative Modeling (non-archival workshop). Conference paper. Submitted, 2024.

Tiago da Silva; **Eliezer de Souza da Silva**; Adèle Ribeiro; António Góis; Dominik Heider; Samuel Kaski; Diego Mesquita**.** *Human-in-the-Loop Causal Discovery under Latent Confounding using Ancestral GFlowNets*. Journal Paper. Submitted, 2024.

Tiago da Silva; **Eliezer de Souza da Silva**; Diego Mesquita**.** *On Divergence Measures for Training GFlowNets.* Conference Paper. Submitted, 2024.

Eliezer de Souza da Silva; Tomasz Kuśmierczyk; Marcelo Hartmann; Arto Klami. *Prior Specification for Bayesian Matrix Factorization via Prior Predictive Matching*. Journal of Machine Learning Research (JMLR), 2023.

Bjørnar Vassøy; Massimiliano Ruocco; **Eliezer de Souza da Silva;** Erlend Aune. *Time is of the essence: A joint Hierarchical RNN and Point Process model for time and item predictions*. ACM International Conference on Web Search and Data Mining (WSDM), 2019.

Eliezer de Souza da Silva; Helge Langseth; Heri Ramampiaro. *Content-Based Social Recommendation with Poisson Matrix Factorization*. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD), 2017.

Eliezer de Souza da Silva; Thiago S.F.X. Teixeira, George Teodoro; Eduardo Valle. *Large-Scale Distributed Locality-Sensitive Hashing for General Metric Data*. International Conference on Similarity Search and Applications (SISAP), 2014.

Academic Experience:

Postdoctoral Fellow at Fundação Getúlio Vargas/FGV (School of Applied Mathematics)
Sep/2022-, Rio de Janeiro, BR
× Research project deep generative models, Bayesian modeling, and causal inference. The aim is to contribute to causal inference using modern ML and Bayesian modeling techniques. Working with Prof. Diego Mesquita.

Co-Founder and Program Director of the Probabilistic AI School
Dec/2018-, Trondheim, NO. http://www.probabilistic.ai/
× Founded the school in 2019 with Tárik S. Salem, Helge Langseth, and Heri Ramampiaro. The school welcomes ~150 students from all over the world. We offer scholarships to students from under-represented groups and countries. We have received funding from NFR, FCAI, NAIL, NorwAI, DNV, Sparebank SMN, and Google Deepmind.
× Responsible for the school's curriculum and program; General chair for the Tropical ProbAI initiative (starting in 2024).

Postdoctoral Fellow at NTNU (Department of Sociology and Political Science)
Sep/2021-Aug/2022, Trondheim, NO
× Computational social sciences and machine learning to facilitate research in global health and social determinants of health. Work was developed with the Center for Global Health and Inequality (CHAIN) and Prof. Terje Andreas Eikemo. Ongoing collaboration on using ML tools and methods in social science research.

Research Scientist at SINTEF Digital (SESS, Software Product Innovation)
Jan/2022-Jan/2023, Trondheim, NO
× R&D: physics-informed neural networks for fluid dynamics and machine learning for irregular time series. Included supervision of master students.

Machine Learning Research Intern at The Curious AI Company
Oct/2019-Jan/2020, Helsinki, FI
× R&D: model-based reinforcement learning and planning with discrete and continuous decision variables.

SUPERVISION:

Bjørnar Vassøy (M.Sc. co-supervision, NTNU, 2018). Inter-Session Temporal Modeling in Session-Based Recommendation using Hierarchical Recurrent Neural Networks.

Helle M. Gråberg (M.Sc. co-supervision, NTNU, 2022). Towards Physics-Informed Neural Networks for Urban Wind Flow Prediction.

REFERENCES:

Helge Langseth (helgel@idi.ntnu.no). Department of Computer and Information Science, Norwegian University of Science and Technology (http://www.idi.ntnu.no/~helgel/).

Heri Ramampiaro (heri@ntnu.no). Department of Computer and Information Science, Norwegian University of Science and Technology (http://www.idi.ntnu.no/~heri/).

Arto Klami (arto.klami@helsinki.fi). Department of Computer Science, University of Helsinki.

INDUSTRY
EXPERIENCE:

Data Scientist,
Clarify. Trondheim, Norway, Feb/2020-Sep/2022.
Analyst,
Brazilian Institute of Geography and Statistics (IBGE). Rio de Janeiro-RJ, Brazil, Jun/2014-Aug/2015.
Software Engineer,
Eldorado Research Institute, Campinas-SP, Brazil, Sep/2011-Jan/2012.

SERVICE:

Conference Reviewer: NeurIPS (2024), AISTATS (2022-2024), ACL (2019, 2020, RR 2021/2022), EMNLP (2020), EACL (2021), NAACL-HLT (2021), IJCAI (2018, 2020).
Journal Reviewer: Transitions of Machine Learning Research (2024-), International Journal of Approximate Reasoning (2023-), Scientific Reports (2023-), IEEE Transactions on SMC: Systems (2019-), IEEE Transactions on Computational Social Systems (2018-).

GRANTS:

NTNU (Department of Computer Science) Departmental Ph.D Research Fellowship (2015-2020).
Lisbon Machine Learning School (LxMLS) travel and accommodation scholarship for attendance (2016) and lab assistance (2017, 2018, and 2022).
SIGIR Travel Grant (WSDM, 2017).
RMIT ISAR visiting scholar grant (2017).
CAPES M.Sc. research scholarship (2012-2014).
CNpQ (Brazilian Research Council) undergraduate research scholarship (2008-2009).

LANGUAGES:

Portuguese, English, Cape Verdean Creole, French (basic), and Spanish (basic/intermediate).

HOBBIES:

🎶Music playing and composition. 🏃 Running. 🏀 Basketball. 🧘 Meditation. 🌳 Walks and exploring.

OTHER:

96 (2009), 99.5 (2010), and 98.2 (2011) percentile on the POSCOMP national exam. The Brazilian Computing Society (SBC) administers this national graduate exam, which is used as a selection criterion for graduate admissions in Computer Science and Engineering programs.