

Valeria de Paiva

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valeria.depaiva@gmail.com • +1 408 2196912 • vcvpaiva (Skype) • <http://vcvpaiva.github.io/>
10221 Phar Lap Dr • 95014 • Cupertino, CA USA

Professional Experience

Topos Institute

Principal Research Scientist

Working on applying NLP and logical, knowledge and machine learning methods to build prototypes for Networked Mathematics and interaction of systems.

BERKELEY, CA

Apr '21 – present

Samsung Research America

Principal Research Scientist

Working on applying logical, knowledge and machine learning methods to build prototypes of virtual assistants for the smart home and smart devices environment.

MOUNTAIN VIEW, CA

Mar '19 – Feb'20

Nuance Communications

Senior Research Scientist

Researcher in natural language processing (NLP) and text understanding. Leading research on applying text analysis and logical, knowledge and machine learning methods to building prototypes of virtual assistants for cars.

SUNNYVALE, CA

Sept '12 – Dec'18

Deem, Inc (previously Rearden Commerce)

Senior Research Scientist

Sentiment analysis project, geared towards reviews in the travel domain, using logical knowledge representation and ontologies. Devised and coordinate annotation efforts from partners in India.

REDWOOD CITY, CA

Apr '11 – Sep '12

Stanford University and Santa Clara University

Lecturer in Logic

Course on Basic Logic, both for undergraduates in Stanford (Philosophy majors) and for MSc students of Computer Science at Santa Clara University.

STANFORD, SANTA CLARA, CA

Jan '11 – Apr '11

Cuil, Inc.

Search Analyst

Cuil was a very ambitious search start-up, which launched several important innovations: faceted search results with pictures, on demand wikipedia-like encyclopedia, timelines for all kinds of entities, personalized monitoring of twitter feeds, etc. Effectively coordinated team of ranking, data mining and front-end engineers to achieve quality testing tasks. User champion working across teams and boundaries to reach quality goals.

MENLO PARK, CA

May '08 – Sept '10

Xerox PARC

Research Scientist

Worked on Logics for Natural Language Semantics, Knowledge representation systems and evaluation of Semantic systems. Logics of context for AI projects NIMD (Novel Intelligence from Massive Data, DARPA), AQUAINT and IKRIS (Interoperable Knowledge Representation for Intelligence Support). Construction, deployment and results analysis of test suites used for evaluation and regression testing for ARDA Bridge and Asker systems, mapping NL to KR.

PALO ALTO, CA

Oct '00 – May '08

School of Computer Science, University of Birmingham

Assistant Professor (US terminology)

Research on Linear Functional Programming, Linear Logic and Type Theory applications Teaching of undergraduates and graduate courses; PhD supervision.

BIRMINGHAM, UK

1996-2000

Computer Laboratory, University of Cambridge

Research Associate

Various projects using formal tools on Verification of proof assistants; Lexical Semantics for natural language and Semantics of (functional) programming languages.

CAMBRIDGE, UK

1989-1995

Dept de Informática, PUC-Rio de Janeiro

Assistant Professor

RIO DE JANEIRO, BRAZIL

1989

Please refer to my [Google Scholar profile](#) for a list of more than 100 publications and patents.

Education

University of Cambridge

CAMBRIDGE, UK

PhD, Pure Mathematics and Part III Mathematical Tripos

Thesis: The Dialectica Categories, supervisor: Prof M. J. E. Hyland

Pontifical Catholic University (PUC)

RIO DE JANEIRO, BRAZIL

MSc (Algebra) and BSc

Thesis: The Hurwitz-Radon Transformations, supervisor: Dr D. Randall

Honors and Awards

Member of ILLC (Institute for Logic, Language and Information, at the University of Amsterdam) Scientific Advisory Committee. 2017–now

Steering Committee of WoLLIC (Workshop on Language, Logic and Information) conferences. 2016–now

Steering Committee of NASSLLI (North American Summer School in Logic, Language, and Information) 2009–now

Member of the Evaluators Panel of the Vienna Research Groups for Young Investigators in the field of Information and Communication Technology 2018–now

Beth Prize Committee for PhDs in Logic, Language, and Information), FoLLI. 2015–2016

Member of the evaluation team for the INRIA Theme Programs, Verification and Proofs. 2015

Honorary Research Fellow at the School of Computer Science, University of Birmingham, UK 1999–2020

Ciência sem Fronteiras Fellowship from CNPq, Brazilian Research Council. 2013–2015

Co-Principal Investigator, ARDA grant IKRIS: Interoperable Knowledge Representation for Intelligence Support, PARC, CA 2005–2006

Co-Principal Investigator, EPSRC grant xSLAM: The eXplicit Linear Abstract Machine, University of Birmingham, UK 1997–2000

Co-writer, EPSRC grant proposal Authentication Logics: New Theory and Implementations, University of Cambridge, UK 1995

Thesis Committees PhD committee thesis for Andrew Barber (Edinburgh), Jean Leneutre (Paris), Torben Braüner (Aarhus), Alexandre Rademaker (Rio de Janeiro), Yakoub Salhi (Nancy), Felipe Salvatore (USP, São Paulo), Pierre Pradic (ENS, Lyon).

Selected Publications

The Gödel Fibration. (with Davide Trotta and Matteo Spadetto), to appear in MFCS2021. 2021

Kolmogorov-Veloso Problems and Dialectica Categories. (with Samuel Gomes da Silva), 2020. 2020

Hy-NLI: a Hybrid system for Natural Language Inference. *Proceedings of the 28th International Conference for Computational Linguistics (COLING)*. (with Kalouli, A.-L. and Crouch, R.). 2020

Bridges from Language to Logic: Concepts, Contexts and Ontologies, in *5th Logical and Semantic Frameworks with Applications, LSFA'10, ICTAC, Natal, Brazil*. 2010

A Basic Logic for Textual inference (with D. Bobrow, C. Condoravdi, R. Crouch, R. Kaplan, L. Karttunen, T. King and A. Zaenen), In *Procs. of the AAAI Workshop on Inference for Textual Question Answering, Pittsburgh PA, July*. 2005

On an Intuitionistic Modal Logic (with Gavin Bierman), *Studia Logica* (65):383-416. https://www.researchgate.net/publication/226515897_On_An_Intuitionistic_Modal_Logic 2000

Full Intuitionistic Linear Logic (extended abstract). (with Martin Hyland). *Annals of Pure and Applied Logic*, 64(3), pp.273-291. <https://www.dpmms.cam.ac.uk/~martin/Research/Oldpapers/dph93.pdf> 1993

PhD Thesis: Dialectica Categories, Cambridge Technical Report 213, <https://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-213.pdf> 1991

Skills

Technical expertise: Software design and implementation, within a team. Familiarity with ML, Java, Python and C, Perforce, SVN, CVS, Git, plus Mac OS, Linux and Windows.

Open Source projects: Portuguese OpenWordNet-PT, used by Google Translate as its Portuguese lexical resource, <http://wnpt.br/brlcloud.com/wn/> Also the Encyclopedia of Logical Proof Systems

Languages: Portuguese (*native speaker*), English (*full proficiency*), French (*elementary proficiency*) Spanish and Italian (*beginner*).