GUILHERME LIMA, Ph.D.

PERSONAL INFORMATION

First name	Guilherme Frederico
Surname	Lima de Carvalho e Silva
Nationality	Brazil
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EDUCATION

Sept 2016	**PhD in Pure Mathematics**
Institution	University of Cambridge, UK
Thesis title	*Cartesian and Finite-Product-Preserving Essential Inclusions of Grothendieck Toposes*
Supervisor	Prof. Peter Johnstone.
Jun 2008	**Master of Mathematics**
Institution	Pontifícia Universidade Católica do Rio de Janeiro - Brazil
Dissertation title	*Sheaves and Topos Theory*
Supervisor	Prof. George Svetlichny.
Jul 2006	**Bachelor's degree in Pure Mathematics**
	Pontifícia Universidade Católica do Rio de Janeiro - Brazil

ADDITIONAL SKILLS

Python (Scikit-learn, Pandas, NumPy, SciPy, Matplotlib), SQL, Git.

ACADEMIC INTERESTS

Main	Machine Learning, Artifician Inteligence, Natural Language Processing, Cluster Analysis, applications of Category Theory to Data Science.

Other   Game Theory.

JOB EXPERIENCE

2019 – 2021   **Law Office of Brooke Browning Lima**
Co-Founder & Senior Manager
Managed data systems, including budget and financial management databases.

Jan 2010 – Apr 2017   **Supervisor for Cambridge Part III courses**
Employed by different constituent colleges of the University of
Cambridge to tutor individually or in classes for Masters level courses.
Courses:
- **Category Theory**, since 2010
- **Topos Theory**, since 2012

Oct 2012 – Apr 2017   **Supervisor for Cambridge Mathematical Tripos**
Employed by different constituent colleges of the University of
Cambridge to teach undergraduates in pairs, parallel to their lecture courses.
Courses:
- **Numbers and Sets** (first year), 2015
- **Metric and Topological Spaces** (second year), since 2012
- **Linear Algebra** (second year), 2016
- **Groups, Rings and Modules** (second year), 2016
- **Logic and Set Theory** (third year), 2013

Colleges:
Trinity College, Emmanuel College, Christ's College,
Churchill College, Queens' College, Newnham College,
Murray Edwards College.

Feb 2009 – Jun 2009   **Calculus Lecturer** for Pontifícia Universidade Católica
do Rio de Janeiro, Brazil

TALKS

July 2017   **International Category Theory Conference 2017**
University of British Columbia, Vancouver, Canada
Presentation: *Duality theorems for essential inclusions
of Grothendieck toposes*

May 2016   **100th Peripatetic Seminar on Sheaves and Logic**
University of Cambridge, UK
Presentation: *Pullbacks of Essential Inclusions*

of Grothendieck Toposes

Nov 2015 **Topos à l'IHES**
Institut des Haute Études Scientifiques, Paris, France
Presentation: *From Essential Inclusions to Local Geometric Morphisms*

Jun 2015 **International Category Theory Conference 2015**
University of Aveiro, Portugal
Presentation: *Site characterisations for Local Geometric Morphisms*

Jul 2013 **International Category Theory Conference 2013**
Macquarie University, Sydney, Australia
Presentation: *Surjections of Grothendieck Toposes*

Jun 2013 **Young Researchers in Mathematics 2013**
University of Edinburgh, UK
Presentation: *Exponentiable Toposes*

Apr 2012 **Young Researchers in Mathematics 2012**
Bristol University, UK
Presentation: *An Introduction to Classifying Toposes*

Apr 2011 **Young Researchers in Mathematics 2011**
Warwick University, UK
Presentation: *Topos Theory*

SCHOLARSHIPS AND AWARDS

2016 Cambridge Philosophical Society Research Studentship,
to conclude promising piece of research

2011, 2013 DPMMS travel grants for conferences in Vancouver
and Sydney

2010 Smith-Knight and Rayleigh-Knight essay competition 3rd prize

2009 Cambridge Trusts International Scholarship
3 year full PhD scholarship

2007 Bolsa Aluno Nota Dez (Grade A Student Scholarship)
2 year Masters scholarship

SEMINAR ORGANISATION

Oct 2012 - Jan 2015 **Junior Category Theory Seminar**
Created and ran the weekly seminar, which was presented and attended

by Masters and PhD students of the University of Cambridge.

Oct 2012 - Mar 2014 **Joint Category Theory and Computer Science Seminar Series**
Created and organised the seminar series in 2012 and 2013.
Talks were given by PhD students of both Pure Maths
and Computer Science departments of the Univeristy of Cambridge.

ADDITIONAL ACTIVITIES

2017 - 2021   Head coach for the **Butte Elementary Chess Club** and **Butte Elementary Chess Team**.

2014   Created and assumed the role of president of the **Christ's College Volleyball Club**, affiliated to the Christ's College Sports Society, in the University of Cambridge.

2010   Co-founded and assumed the role of vice-president (2010) of the **Cambridge University Brazilian Society**, which organises academic and cultural events promoting Brazilian culture in Cambridge.

Languages: Portuguese (native), English (fluent), French (intermediate).

Updated August 2022