

*International Telecommunication Union | United Nations
Geneva, Switzerland*

Research Interests

Artificial Neural Networks (R & Python) | Machine Learning | Data Science | Microeconomic estimators | Complexity Modeling

Employment

- 2017- RESEARCHER | INTERNATIONAL TELECOMMUNICATIONS UNION (UNITED NATIONS), GENEVA
Researcher; Economics, Machine Learning, Data privacy techniques (Homomorphic Encryption, Private Set Intersection, Differential Privacy)
- 2016-17 RESEARCHER | UNCTAD, GENEVA
Impact evaluation of FTAs on Developing Countries (East African Community), using Computation General Equilibrium programming (GTAP)
- 2015-16 ECONOMIST | THE INTERNET SOCIETY, GENEVA
Paper on exogenous increase in availability of local language content and internet adoption, presented at EEA 2016 | Conceptualised and executed report "Promoting Local Content in Africa" presented at Africa Internet Summit, leading to Google update advertising policy to help monetise African language content.
- 2013-15 RESEARCH CONSULTANT | COGINTA, GENEVA / GUINEA
Directed a large scale representative baseline survey of Conakry (Guinea) population | Conducted analysis for Canton of Geneva commissioned survey on police victimisation
- 2014-15 RESEARCH ASSISTANT | CENTRE ON CONFLICT, DEVELOPMENT AND PEACEBUILDING
Collaborated with the "Institute Nationale du Developement Humaine" (govt. Morocco) to direct a survey on behaviour and community relations, using a Regression Discontinuity Design identification strategy
- 2013-14 RESEARCH ASSISTANT | CENTRE FOR FINANCE AND DEVELOPMENT, GENEVA
Developed survey design on remittances from Geneva | Redeveloped Centre's website
- 2013-14 TEACHING ASSISTANT | THE GRADUATE INSTITUTE, GENEVA
Taught weekly Masters' Statistics workshops | Supervised Masters' Research Projects
- 2012 RESEARCH CONSULTANT | DUTCH DEVELOPMENT FINANCE INSTITUTE FMO, THE HAGUE
Designed and directed survey on implementation of environmental, social, and governance best practices among FMO-invested hedge funds
- 2009 RESEARCH ASSISTANT | UNIVERSITY OF GRONINGEN, NETHERLANDS
Data collection and analysis for Ministry of Economics Affairs commissioned survey

Education

- 2012-16 PHD IN DEVELOPMENT ECONOMICS | THE GRADUATE INSTITUTE GENEVA
Jury: Richard Baldwin (president), Jean-Louis Arcand (supervisor) & Michael Kende
Internet Adoption in Africa | Trade & Global Value Chains | Gender and Child Growth
- 2010-12 MASTER IN QUANTITATIVE ECONOMICS AND FINANCE | UNIVERSITY OF ST. GALLEN
Research for Dr. Piedro Veglio, Executive Director of the World Bank
Microhydropower in remote dev. countries, at the World Bank (D.C.)

2006-10 BSC ECONOMICS | UNIVERSITY OF GRONINGEN

2006-10 BA THEORETICAL PHILOSOPHY | UNIVERSITY OF GRONINGEN

Software experience

R, Python, Julia, C++, Go, Javascript, Bash, Java, MariaDB / MySQL, SQL, NoSQL, Tensorflow, Keras, PyTorch, Kubernetes, Docker, Git, HTML / XML, Microsoft Office, Google Docs, Linux, L^AT_EX

Selected Research Papers

2017 “Global Value Chains in LICs” | *CTEI Working Paper Series*

2016 “Making the Next Billion Demand Access” | *CFD Working Paper* | *G7 briefing notes*

2015 “decompr: GVC decomposition in R” | *CTEI Working Paper Series*

Conference Presentations

2016 “Making the Next Billion Demand Access: The Local-Content Effect of google.co.za in Setswana” | *EEA Annual Conference 2016*

2013 “Urban Violence and Collective Efficacy in Karachi and Dhaka” | *Pictet Foundation / Centre for Finance and Development Conference 2013*

Other Publications, Op Eds and Short Notes

2017 “Global Value Chains in Developing Economies” | *VoxEU*

Software Development

2016 `rnn` CRAN. Recurrent Neural Network architectures in native R.
multilayer Recurrent Neural Networks (Deep Learning) | > 50,000 downloads

2016 `datasets.load` CRAN. utilities and Graphical User Interface for loading datasets
> 50,000 downloads

2015 `decompr` CRAN. Global Value Chain decomposition.
Implementation of Wang-Wei-Zhu GVC decomposition algorithm | > 30,000 downloads
| Used for: World Bank GVC study, VoxEU GVCs eBook, WTO Annual Report

2015 `sigmoid` CRAN. Sigmoid functions (logistic, Gompertz), inverses (logit), and SoftMax |
>50,000 downloads

2015 `rddtools` CRAN. Framework for Regression Discontinuity Design | > 25,000 downloads

2014 `gvc` CRAN. Tools for Global Value Chain analysis | > 20,000 downloads

2014 `diagonals` CRAN. Tools for manipulating fat-diagonal matrices, e.g. block matrices

Other Publications

2017	Benefits of Local Content Hosting (in Rwanda), <i>The Internet Society</i>
2016	Promoting Content in Africa, <i>The Internet Society</i>
2014	Diagnostic Local de Sécurité 2014 de Conakry (Guinée), <i>Coginta</i>
2013	Diagnostic Local de Sécurité 2013 de Genève (Suisse), <i>Coginta</i>

Languages

English (fluent), Dutch (native), German (advanced), French (advanced), Spanish (advanced), Hindi (basic)

Affiliations

Ifo Economists Expert Group (University of Munich, for Switzerland)

Centre for Finance and Development; The Graduate Institute, Geneva

Centre on Conflict, Development and Peacebuilding; The Graduate Institute, Geneva