# Fernando Carvalhaes Barbi

**Senior Quantitative Analyst & Macro Economist**
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## Education

**Doctorate in Econometrics** (2014)
São Paulo School of Economics FGV, Brazil.
Research on Bayesian econometric methods for interest rates prediction.
Advisor: Prof. Pedro Luiz Valls Pereira

**Master in Economics** (2009)
Research on Monetary Policy and International Economics.
**Diplomas**: Electrical Engineering (1993), Journalism (2006)
**Baccalauréat**: Académie de Poitiers, France, Mathématiques et Sc.Physiques (1986)

## Tools and Skills

Data analysis tools: R, Spark, Matlab/Julia, Eviews/OxMetrics, Stata, Bloomberg
Programming: Python, Scala, C/C++ 11, Go, Ruby
Database: Oracle, MySQL, PostgreSQL, Hadoop, NoSQL
Machine Learning tools: TensorFlow, Scikit-Learn, nltk
Machine Learning algorithms: SVM, Random Forest, Boosting, Kernel PCA, C/RNN
Development tools: Ruby on Rails, Angular, Node, jQuery, D3js

**Languages**
Fluent: French, English, Portuguese; Proficient: Spanish

**Certifications**
Cisco CCNP (2001), PMI PMP (2003), NAUI Tech Diver (2012), PADI Divemaster (2013)

**Professional Affiliations**

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| American Economic Association (AEA) | American Finance Association (AFA) |
| American Statistical Association (ASA) | Brazilian Econometrics Society (SBE) |
| Swiss Soc. Economics and Stats (SSES) | Mensa (Boston USA) |

## Professional Experience

- **Data Scientist (2017-2018)** at **AnalyX Research (Start-Up)**.
  - Develop models to assess value and quality of data stored in blockchains
  - Code filters (Python and Go) to look for patterns in large datasets (eg.fraud prevention)
  - Technical presentations to potential investors and clients
- **Senior Economist (2014-2018)** at **Quantum Global Research Lab AG**.
  - Managed mid-size to big projects (from USD 500 K to 4 million)
  - Developed Macro-Finance models for Asset Pricing and Risk Management
  - Participated in the development of a portfolio of ETFs focused on African assets
  - Advised the Private Equity Investment Committee and the Group Chairman
  - Developed a Knowledge Base System using Tensorflow for recommendations
  - Developed a Data Analysis and Reporting tool (using MEAN and D3js)
- **Head of Economic Modelling Division (2013-2014)** at the **Ministry of Finance of Brazil**. Development of models to forecast economic activity and inflation. Fiscal model for budget management.
- **Senior Analyst (2010-2014)** at the **Center of Quantitative Studies in Economics and Finance** (CEQEF). Production of economic activity leading and coincidental indicators. Estimation of equilibrium rates (activity, exchange and interest rates). Certification of credit risk models for commercial banks (eg.Itau and Banco do Brasil).
- **Researcher (2010-2014)** at the **Center for Applied Macroeconomics** (CEMAP). DSGE modelling. Structural econometric modelling (Matlab). Reports on monetary policy and FX market. Coordination of regular market surveys on inflation and sectoral economic activity.
- **Financial Modeler and Programmer (2010-2012)** at **Investflex Tecnologia** Ltda. Development of derivatives trading strategies (Matlab). Programming (C++) of trading routines. Experience with FIX (financial information exchange) protocol.
- **Lecturer (2008-2013)** at two Universities (**PUC-SP** and **FGV**). Times Series and Financial Econometrics, Monetary and Financial Policy and Advanced Macroeconomics.
- **Entrepreneur (2000-2005)** at **Hexxa Networks** Ltda. Co-founder of an internet service provider (BGP ASN 21911) acquired by Dualtec / UOL Diveo, Brazil's biggest ISP.
- **Network Engineer and Project Manager (1996-2000)**. Cisco Network Engineer and Project Manager for two major telecom companies (OI and Brasil Telecom). For CTBC I coordinated the international roaming project using SS6 and VoIP.
- **Software Developer and Project Manager (1993-1996)**. Various positions as a Developer (Assembly 80x86, C) and System Analyst for major System Integrators (Diebold Procomp).