

# Eduardo Mucelli | Software Engineer

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## Education

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### École Polytechnique

Computer Science, Ph.D

Paris, France

October 2011 — May 2015

### Federal University of Minas Gerais

Computer Science, Master's degree

Minas Gerais, Brazil

March 2009 — July 2011

### Pontifical Catholic University of Minas Gerais

Computer Science, Bachelor's degree

Minas Gerais, Brazil

August 2004 — August 2008

### Ph.D thesis

**Title:** *From Your Routine to Better Network Services* 🔗

**Supervisor:** Aline C. Viana ✉

**Description:** Investigated characteristics of human mobility and their impact on the network data traffic, planning and deployment. I've analyzed large-scale datasets from mobility and traffic demands generated by millions of users. Python's multiprocessing, thread and R multi-core libraries were used to summarize and assess massive amounts of data

**Results:** 5 conference papers were published, 3 journal papers are in submission, and a data traffic simulator was created.

### Master's thesis

**Title:** *Centrality-based Routing for Wireless Sensor Networks*

**Supervisors:** Antonio A. F. Loureiro ✉ and Heitor S. Ramos ✉

**Description:** Aimed to use centrality information on the design of routing algorithms for Wireless Sensor Networks. Proposed new topological metrics, distributed algorithms to calculate them, and a tree-based routing algorithms that take advantage of them. Simulators Castalia (C++) and Sinalgo (Java) were used.

**Results:** 1 conference and 1 journal paper published.

### Bachelor's thesis

**Title:** *Data Codification, Fusion and Communication in Wireless Sensor Networks*

**Supervisors:** Raquel A. F. Mini ✉ and Pedro O. V. Melo ✉

**Description:** Created a wireless sensor's application for fire detection using real dataset of weather measurements. Proposed a novel way to fuse and codify data. Simulation used NS 2 (C++ and TCL).

**Results:** 1 conference paper published.

## Professional Experiences

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### Orange

Postdoctoral Researcher

Paris, France

June 2015 – Nowadays

Developing techniques for geolocalized Radio Engineering in order to improve the mobile network's KPIs.

### Dito Internet

Software Engineer

Minas Gerais, Brazil

July 2011 — September 2011

Part of a Ruby on Rails team developing a Telecom Italia Mobile's project called Tim Beta, [timbeta.com.br](http://timbeta.com.br).

### Telecom Italia Future Centre

Intern

Venice, Italy

November 2010 — May 2011

Developed, in Python, a project called Future of Enterprises aiming to improve the real-time interaction among employees.

## Task Internet

Systems Analyst

Ruby on Rails development of a social network.

Minas Gerais, Brazil

February 2008 — February 2009

## Skills

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**Language:** Python, Ruby, R, Javascript, and Java

**VCS:** Subversion, Git, and Bazaar

**Framework:** Ruby on Rails, jQuery, Zurb Foundation, and Semantic-UI

**DB:** MySQL, and PostgreSQL

**OS:** Linux, and Android

**Others:** Machine learning, full-stack development, REST API development, Web crawlers, and D-Bus

## Languages

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**Portuguese:** Native speaker

**English:** Fluent

**French:** Fluent

**Italian:** Advanced

## Web and Android Applications

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**Eazy.bike** – <http://eazy.bike> and [Android app](#)

Ruby, Python, Java (Android), and Javascript

It finds the best cycling routes using bike-sharing systems in more than 390 cities distributed in 42 countries. It considers real-time information of how many bicycles are available closest to you and how many available bike stands are available in the stations close to the destination address. It then chooses the best stations and route. Additionally, the Android app provides automatic redirection in case the initial destination station gets full during user's trajectory. Besides, it provides city-specific domains such as [paris.eazy.bike](#), [london.eazy.bike](#), or [ny.eazy.bike](#), etc., to directly access the Web service in the respective cities.

**Proconfie** – <http://www.proconfie.com>

Ruby, Python, and R

It helps people to choose companies based on problems presented with other customers. Received Honorary Mention award from the Brazilian Ministry of Justice. Refer to Section [Awards](#) for further information.

**CEP Aberto** – <http://www.cepaberto.com>

Ruby, Python, and Javascript

Collaborative application that aims to publicly open the Brazilian Postal Code (CEP) data. It currently contains information of about 1 million CEPs. It provides an API for developers willing to use geolocalized Postal Code data and, for the end-users, the possibility to edit, add, fix, follow, etc, specific postal-coded-locations in order to improve the quality of the data. About a thousand of registered users.

## Some Open Source Projects

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**Twitter applet** – [Code](#) 

Twitter applet for Cairo-Dock which, among other features, handles the Twitter's streaming API.

**WebSearch applet** – [Code](#) 


Metasearch applet for Cairo-Dock capable of retrieving text and image results from several sources, e.g., Google, Bing, Yahoo!, Youtube, and Twitter.

**Repeat One Song** – [Code](#) 

The Repeat One Song feature for Rhythmbox.

**Translator** – [Code](#) 

Full-featured Google Translator-based translator applet for Cairo-Dock.

**Quote** – [Code](#) 

"Quote of the day" applet for Cairo-Dock. It crawls Internet sources, e.g., Bash.org, Xkcd.com, Qdb.us.

## Recent publications

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- Oliveira, Eduardo Mucelli Rezende and Carneiro Viana, Aline and Naveen, K. P. and Sarraute, Carlos., *"Analysis and Modeling of Mobile Data Traffic in Mexico City"*, NetMob, April 2015, Mit Media Lab, Cambridge, MA, United States.
- Oliveira, Eduardo Mucelli Rezende and Carneiro Viana, Aline and Naveen, K. P. and Sarraute, Carlos., *"Measurement-driven mobile data traffic modeling in a large metropolitan area"*, IEEE Percom, March 2015, Saint Louis, United States.
- Oliveira, Eduardo Mucelli Rezende and Viana, Aline Carneiro., *"From Routine to Network Deployment for Data Offloading in Metropolitan Areas"*, IEEE SECON, June 2014, Singapore.
- Oliveira, Eduardo Mucelli Rezende and Viana, Aline Carneiro., *"Routine-based Network Deployment"*, IEEE INFOCOM, Student workshop, April 2014, Toronto, Canada.
- Oliveira, Eduardo Mucelli Rezende and Viana, Aline Carneiro., *"From Routine To Better Network Services"*, IEEE/IFIP WMNC, May 2014, Algarve, Portugal.
- Oliveira, Eduardo Mucelli Rezende and Viana, Aline Carneiro., *"Routine-based network deployment for data offloading in metropolitan areas"*, IEEE WCNC 2014, Istanbul, Turkey.

## Awards

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### Honorary mention

*Brazilian Ministry of Justice*

*May 2013*

Open Data Applications Contest. Lead developer of a Ruby on Rails application called Proconfie. Refer to Section [Web Applications](#) for more details about this application.

### Silver Medal

*Pontifical Catholic University of Minas Gerais*

*July 2008*

Second best overall score during the bachelor.

### Honorary mention

*Pontifical Catholic University of Minas Gerais*

*May 2007*

For the work *"Game Theory in Decision Making in Wireless Sensor Networks"* presented in the 15<sup>th</sup> Sciences Seminar.

## Hobbies

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**Music:** Amateur drummer for 2 years and currently focusing on pandeiro, a Brazilian percussion.

**Sport:** Swimming, BMX, soccer player on a youth professional team for 5 years, Brazilian dancing lessons for 3 years.

**Photography:** Specially Moon, and macro of flowers.