Leonardo Passos (lpassos@gsd.uwaterloo.ca, + 1 226 748 4747) *https://ca.linkedin.com/in/lnrdpss*

Skills

Languages: **Java** (7+ years), **C/C++** (4+ years), **Bash** (4+ years), SQL (3.5 years), Scala (2 years), R (1 year), C# (1 year)
Experience: Data Structures, Design & Architectural Patterns, Backend Development, Data Analysis, Parsing

Education

Ph.D. in Computer Engineering, **University of Waterloo**, Canada — Sep. 2010 – Jun. 2016
M.Sc. in Computer Science, **Federal University of Minas Gerais**, Brazil — Fev. 2005 – Sep. 2007
B.Sc. in Computer Science, **PUC Minas**, Brazil — Fev. 2000 – Jul. 2004

Industrial Experience & Projects

Researcher (Intern), LogicBlox — Feb. 2015 – Apr. 2015

- **LayerBlox Compiler:** Created a **statically typed DSL** for composing components in LogiQL (the DDL/DML language of the LogicBlox DBMS). Implemented a **production-ready compiler (lexer+parser+AST model+semantic checker+code generator, 20 KLOC in Java)** for the DSL and a JUnit test suite with 100% method coverage. Further project description at Udacity's Youtube channel: http://tinyurl.com/layerblox

Software Engineer II, Vetta Technologies — Aug. 2007– Apr. 2008

- **RCOE School Management Platform:** Worked in porting RCOE's (Riverside County of Education) desktop-based school management app to the Web. Used **HTML+Javascript** (frontend) and **iBatis ORM**+**Java** (backend); created **JUnit tests for all controllers** and **DAOs**; used **Apache Wicket** as the Web framework
- **Prepaid Cell-phone PIN Number Importer: Designed** and **implemented** a multi-threaded feature to import, cryptograph, store and distribute PIN numbers to the end-sales points of Vivo cell phone provider (+79 million users). Used **HTML+Javascript** (frontend) and **Java**+**iBatis ORM** (backend); created **JUnit** tests for all **controllers** and **DAOs**; used the **Struts MVC** framework
- **Cryptography Library:** Implemented a **library** on top of javax.crypto to facilitate the composition of different **cryptography** methods

Software Engineer I, Capgemini — Jul. 2004 – Feb. 2005

- **SIS:** Maintenance of C-based agents to **parse** and dispatch telephony center commands
- **Tape Record Retriever:** Collected **user requirements** and created all the **use cases** and **design** of a system to recover data from the tape history (+13 Tera bytes of data) of Oi, one of the largest telephone companies in South America (+50 million users)

Academic Experience & Projects

Postdoctoral Fellow, University of Waterloo — Jul. 2016 – **Present**

- **Surveys** and **interviews** with open-source developers to validate research results
- **Data analysis** in **R**, running exploratory analysis & hypothesis tests

Research Assistant, University of Waterloo — Sep. 2010 – Jun. 2016

- **Smart Fixer:** Changed the **C++ eCos OS configurator** to add a priority fixing mechanism
- **Kconfig Info:** Changed the **C-based Linux kernel configurator** to extract metadata of config-options. Performed the same approach for axTLS, Toybox, and uClibc
- **Git Miner**: Created **Java libraries**, **command-line programs**, and **Bash scripts** to retrieve, parse, clean, and mine data from **Git** repositories. **Data analysis** was performed after loading all data in **PostgreSQL,** using **R** and specialized packages such as RPostgreSQL, sqldf, ggplot, exactRankTests, and reshape
- **CDL Type Checker:** Created a tool (in **Scala**) to statically find configuration mistakes due to type errors in the config-options of the eCos OS

Teaching Assistant (10 terms), University of Waterloo — Sep. 2010 – Aug. 2015

- TAed Foundations of Software Engineering, Embedded Microprocessor Systems, Compilers, Fundamentals of Programming, Software Engineering, and Software Design & Architecture**.** Technologies taught or used when creating marking infrastructure: **Scala, Bash, Java, UML, C#, Android SDK/Android Studio**

Lecturer, Itaúna/PUC Minas/IFMG/UFVJM — Aug. 2004 – Jul. 2010

- Taught courses in Algorithms, Programming Languages, Software Engineering, Compilers, and Theory of Computation

Honors & Awards

- **Best research paper award** at the ACM Modularity'15 paper
- **Bronze medal** in the Student Research Competition at the ACM Modularity'15 conference. The competition was sponsored by **Microsoft Research**

Publications & Open-source Projects

- http://tinyurl.com/leonardopassos-pubs
- http://github.com/lpassos
- http://bitbucket.org/lpassos