

I'm a passionate developer with a broad technical knowledge that enjoys feeling productive while creating software. I have strong object oriented and functional programming skills, experience building both frontend applications and backend systems, and I put a very strong emphasis on quality.

Skills: F#, C#, LINQ, RX, TPL, WCF, WPF, Silverlight, SQL, HTML, ASP.NET MVC, JavaScript, jQuery, C++, Python, Ruby, Java, Scala, Clojure, Racket, Matlab, R, Machine Learning, Hadoop, Azure

Professional Experience

Senior Application Developer @ Citi, London

August 2012 to Present

- Development and support of high availability low latency servers for pricing and booking FX options
- Improvements to the system memory footprint and scalability
- Support for dual currency deposits and for multi-leg scheduling with solving
- Storage and analysis of historical data

Technologies: C#, F#, LINQ, RX, TPL, WCF, Java, Hadoop, HBase, Hive, TIBCO EMS, Caplin Liberator, GemFire, Symphony HPC, FIX, NUnit, Rhino Mocks, Wix, SVN, TFS, Team City

Software Developer @ Trayport, London

January 2012 to August 2012

- Development of hosted clearing links for commodities trading in broker systems
- Development of pre-trade risk management system for energy markets
- Development of ASP.NET MVC web applications

Technologies: C#, F#, LINQ, RX, TPL, WCF, MSMQ, ASP.NET MVC, jQuery, Flot, Entity Framework, Autofac, Castle Windsor, NUnit, MSTest, Fluent Assertions, Moq, SpecFlow, MSpec, TDD, BDD, Perforce, Team City

Software Engineer @ OutSystems R&D, Lisbon

January 2006 to December 2011

- End to end development of new language features for a visual DSL and correspondent IDE, including API design, visual editors implementation, and compilation into SQL, C#/ASP.NET and Java
- Architecture re-engineering of a very large code base from VB6 & C++ to .NET 3.5 / WPF
- Development of internal code generation tools to automatically generate multiple implementations from a single model definition
- Improvements to a C# to Java translator to support generics
- Design and implementation of a real-time syntactic and semantic analysis engine for an expression based language with error reporting integration in the IDE
- Implementation of a WYSIWYG web editor with live data simulation and support for mobile form factors using WPF and the MSHTML control
- Design of an embedded tutorials framework, with a strongly typed scripting engine and an interactive game-like UI
- Extensive work in serialization, compression, and definition of file formats to support very fast incremental load and save
- Optimization of a distributed compilation and deployment pipeline for improved performance and bandwidth usage
- Design and implementation of UI patterns and application templates in the OutSystems DSL, CSS & JavaScript
- Development of a unit testing framework for the OutSystems DSL
- Improvements to in-house bug tracking, project management and build server systems, built with the OutSystems platform
- Analysis of anonymous user data to extract common usage patterns and find more relevant areas of improvement
- Application-wide user interface redesign, using iterative process with prototyping of multiple alternative user interaction concepts
- Team lead for the UI team
- Product management, project management, and coaching

Technologies: VB6, C++, COM, LEX/YACC, Gold Parser, C#, LINQ, Fast Infoset, WCF, Windows Forms, WPF, MVVM, ASP.NET, HTML5, CSS, jQuery, Java, JBoss, Lucene, MSMQ, SQL Server, Oracle, NSIS, MSBuild, VUnit, NUnit, RhinoMocks, PostSharp, Selenium, CVS, SVN

Teaching Monitor @ Instituto Superior Técnico, Lisbon

March 2005 to February 2006, Computer Science and Engineering Department

Programming Fundamentals *Sep 2005 to Feb 2006*

Functional programming exercises in Scheme

Artificial Intelligence *Mar 2005 to Aug 2005*

Theoretical exercises on AI Search, Logic and Planning; programming exercises in Common LISP

Technical Certifications

MSTS in Web Applications Development with Microsoft .NET Framework 4

June 2011

Formal Education

MSc in Information Systems and Computer Engineering @ Instituto Superior Técnico

1999-2005: all courses, 2009-2010: master thesis

Major in Intelligent Systems, Minor in Software Engineering

Master Thesis: "Testing support for the OutSystems Agile Platform"

Participation in several programming contests:

MIUP'2004	National ACM Programming Contest
8th Micro-Rato	National Robotics Competition
MIUP'2003	National ACM Programming Contest
CeNPL'02	National Logic Programming Contest
SWERC'02	Southwestern Europe Regional ACM Programming Contest
IOI'99	XI International Olympiads in Informatics

Hobbies & Interests

Blog

<http://blog.codebeside.org>

Open Source Contributions

FSharpX

FSharp.Data

FSharpChart

Math.NET Numerics

User Groups Participation

Data Science London

London Machine Learning

LondonR

F#unctional Londoners

London Windows Store App Developer Group (1 app in development)

Windows Phone User Group (2 published apps, 1 in development)

Online Courses

Introduction to Databases by Prof. Jennifer Widom, Stanford University

October 2011 to December 2011

Introduction to Machine Learning by Prof. Andrew Ng, Stanford University

October 2011 to December 2011

Introduction to Artificial Intelligence by Profs. Sebastian Thrun and Peter Norvig, Stanford University

October 2011 to December 2011

Model Thinking by Prof. Scott E Page, University of Michigan

February 2012 to May 2012

Introduction to Finance by Prof. Gautam Kaul, University of Michigan

July 2012 to October 2012

Computing for Data Analysis by Prof. Roger D. Peng, Johns Hopkins University

September 2012 to October 2012

Functional Programming Principles in Scala by Prof. Martin Odersky, EPFL

September 2012 to November 2012

Mathematical Biostatistics Bootcamp by Prof. Brian Caffo, Johns Hopkins University

September 2012 to November 2012

Social Network Analysis by Prof. Lada Adamic, University of Michigan

September 2012 to November 2012

Probabilistic Graphical Models by Prof. Daphne Koller, Stanford University

September 2012 to December 2012

Neural Networks for Machine Learning by Prof. Geoffrey Hinton, University of Toronto

October 2012 to December 2012

Learning from Data by Prof. Yaser Abu-Mostafa, Caltech

October 2012 to December 2012

Programming Languages by Prof. Dan Grossman, University of Washington

October 2012 to December 2012