FILIPE PELIZ PINTO TEIXEIRA

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EDUCATION

Imperial College, London, United Kingdom   *2012 – 2016*
PhD
Specialising in Computational Neurodynamics

Imperial College, London, United Kingdom   *2010 – 2011*
MSc - First Class
Specialising in Artificial Intelligence

University of Johannesburg, South Africa   *2006 – 2009*
BSc Honours - First Class
Specialising in Computer Science

Verney College, South Africa   *2001 – 2006*
Senior Certificate

EXPERIENCE

Mindmaps Research Ltd   November 2015 – Present
Core API Engineer   *London, UK*

· Working on creating a software stack which more easily enables the development of domain specific semantic search engines based on graph database technologies such as TitanDB, Neo4J, and OrientDB.
· My primary responsibilities include designing and implementing the core object model based on Topic Maps knowledge representation.
· Users of the software stack interact with the object model using a Core Graph API which I have designed on top of the Tinkerpop API.
· I also aid with development of the flagship project - Moogi - which is a movie semantic search engine used to showcase the usefulness of our software stack.
· This includes creating RESTful services using spring-boot which allow the ETL (Extraction-Transformation-Loading) process to persist data into the graph more easily.
· As I was taken on to temporarily to aid with formalising the development workflow I introduced test driven development and peer based code reviews to better assure code quality.

Rolbac Ltd   January 2014 – October 2015
Software Engineer   *London, UK*

· Worked on bringing www.rolonews.com to mobile platforms as well as contributing to the growth of the existing web solution.
· Rolonews is a news platform dedicated towards acquiring and integrating news articles across the web. This entails crawling the web for any articles at all times.
· Rolonews also establishes links between news articles and *things* using java NLP and wikipedia ontology.
· The platform processes over 100000 articles a day which it organises and stores using Hbase and Hadoop distributed services.
· Activities included redesigning Rolbac WebObject servers to work with RESTful services rather than session driven communications. This included caching Hbase and Hadoop requests based on client request tokens.

- Designed the Rolonews OAuth2 procedures to allow third parties to make cross domain calls to all Rolbac REST services. This included setting up client and server side CORS request handling. Authentication is performed against client credentials on a PostgreSQL database. All client requests for content are handled by HBase and Hadoop.
- Expanded product range by introducing a mobile platform using Cordova which allows building Android and iOS applications from javascript and html pages. This includes writing any native code which allows javascript to access mobile features such as camera and GPS more easily.
- The cordova application is built using JQuery and Backbone, this allows the application to be of a similar style to the existing web platform and means several client side scripts such as those relating to data models and collections can be reused.

Ocado Plc   October 2011 – April 2012
CFC Software Engineer   *London, UK*
- Worked with the inbound stock handling team which focused on creating an automated solution for accepting, routing, and storing all stock at the warehouse.
- The warehouse known as CFC 2 automatically accepted goods from stock suppliers such as John Lewis, local farmers, and Ocado's own manufacturing plants.
- Once goods were accepted they would be unpacked and routed for storage. At this stage goods would be automatically picked, and shipped to Ocado's northern market.
- Worked on designing and implementing the warehouse control systems (WCS). These systems were a Java middle-ware which interfaced between the machinery and warehouse managements systems (WMS) using JMS and ActiveMQ as the communication foundation.
- WCS is responsible for determining each stock item's optimal route towards storage as well as ensuring all machinery was routing stock accordingly. WCS specifically focused on high throughput as CFC 2 often received large amounts of goods in bulk simultaneously from several providers.
- Also worked on WMS and designed the stock tracking and handling procedures. This included ensuring all stock positions are tracked in real time stored on a PL/SQL database as well as ensuring warehouse staff is notified of all movements via a GWT interface running on a Glassfish server.

City Software International   February 2010 – July 2010
Contract Software Developer   *London, UK*
- Re-engineered a financial obliger tracking system which banks use to track large facility movements between clients.
- System was to be designed securely to interface with Helba Bank's existing security protocols as facility transfers often incorporated several obligers with millions of dollars being involved.
- Contract began by understanding the client's existing solution which was a 15 year old VBA application relying on a non referential database structure.
- After gathering client requirements and getting a proposal accepted a new system was developed using a Silverlight and C# web front end.
- The back end server was also redeveloped using a WCF service provider which binded to SQL Server via LinQ.

Self Employed   2007 – 2009
Software Contractor   *Johannesburg, South Africa*
- Worked on a variety of short term contracts acquired through university jobs board and referrals.
- Developed automated test libraries including comprehensive Java unit testing and scenario testing for account tracking software, design studios, and other software houses.
- Web development including designing a photographer's portfolio as well several restaurant's websites typically using html and JavaScript.

· Desktop applications which provided stock tracking for small local businesses using a C# UI and a Microsoft SQL database.

TECHNICAL STRENGTHS

Advanced	Java, JMS, JUnit, Android, Cordova, JavaScript, JQuery, Backbone, Maven, Eclipse, Matlab, Git, Linux Debian/Ubuntu, Windows 7
Intermediate	C#, WPF, SQL, PostgreSQL, HTML, Mercurial, Apache, Visual Studio, Linux Fedora
Basic	C++, MPI, OpenMP, HBase, Python, PHP, WCF, Glassfish, Prolog, Mac OS X

AWARDS

Commonwealth Scholarship *2013*
International PhD Funding awarded due to excellent academic history and innovative project proposal
MSc Thesis – Distinguished Project *2011*
Awarded due to being rated one of the best project submissions
Santander Award *2010*
Bursary to the value of 5000 awarded due to excellent academic history
CSIR Award *2009*
Bursary to the value of R15000 awarded due to being in top 2% of graduating class
UJ Award *2006*
Full scholarship award due to excellent academic history

ACADEMIC PUBLICATIONS

Teixeira, F.P. & Shanahan, M., Local and Global Criticality within Oscillating Networks of Spiking Neurons, *Proceedings IJCNN 2015*

Teixeira, F.P. & Shanahan, M., Does plasticity promote criticality?, *Proceedings IJCNN 2014*

PERSONAL STATEMENT

My PhD in Artificial Intelligence provided me with an opportunity to work on a variety of projects. Ranging from analysing the efficiency of Artificial Neural Networks to simulating brain-like networks to most recently attempting to design semantic search engines on top of graph structures. Throughout all these diverse projects I have learnt that my passion lies not in a specific technology but in solving data-driven analytic problems. I specifically enjoy engineering systems capable of analysing data which reveal previously unseen patterns. These types of system usually require an understanding of core engineering principals (TDD, Design Patterns, etc . . .) and also provide an opportunity to write elegant algorithms which solve domain specific problems. I am specifically looking for roles which cater to both of these tasks. I look forward to spending more hours in front of the white board arguing with my colleagues about the design of the system.