

## TIMOTHY WASHINGTON

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## VALUE PROPOSITION

A Senior Software Developer with over 12 years of experience architecting and building enterprise web applications from end to end. Experience includes delivering stable, robust software architectures to organisations from Lehman Brothers to Conde Nast, on time and on budget. Skills include Managing Agile projects, Systems Analysis and Design, Functional Programming, DSL and Language Design, Artificial Intelligence & Neural Networks and Object-Oriented Design, with contributions to the open source community.

## OPEN SOURCE PROJECTS

### Edgar

Edgar is a basic tool for performing Technical Analysis on financial instruments (see [here](#) and [repo](#)). It is currently a working system that i) collects historical and live tick data and calculates statistical indicators. Lagging Indicators (Moving Averages, Bollinger Bands), Leading Indicators (Stochastic Oscillator, MACD) and Confirming Indicators (On Balance Volume, Relative Strength Index). As well, there are other goodies like Relative Strength Index (RSI) and Price Divergence.

Edgar is meant to leverage the power of Clojure in this domain. A feasible Clojure alternative, along the lines of TradeLink ([see here](#)) or Open Java Trading System ([see here](#)).

### Bkeeping

Bkeeping's (bkeeping.com) value proposition is to use a simple and intuitive interface to save the user time and headache. It lets them quickly and easily manage their account and journal data within 2 or 3 steps. Managing up to 4 developers and designers, I architected and built the original Java version using *i)* Bob, an XML/Java binding tool, *ii)* a custom DSL and web 2.0 technologies. The latest version, Bkeeping.com, is currently a Clojure implementation (Clojure, Coffeescript and MongoDB) of 'Bookkeeping' in about 1/10th the amount of code. I was able to replace several important modules, including i) a custom XML/Java binding framework (like XMLBeans), ii) an XPath interpreter, and iii) a custom language and shell interpreter. This project is based on the work in these projects:

- **Bookkeeping:** I architected and implemented a double-entry bookkeeping system and its shell environment (see [repo](#)).
- **Bkeeping:** I designed and implemented the programming language 'Bkeeping' for specialized accounting tasks. (part of the 'Bookkeeping' package)
- **XMLas:** I designed and built an XML/Javascript binding library. It is analogous to Bob (or XMLBeans), but written in Javascript.

### CInn

Machine Learning and Artificial Intelligence is the science of getting computers to act without being explicitly programmed. CInn is an exploratory project in Neural Networks; a particular branch of Artificial Intelligence (see [repo](#)). It uses a Simple FeedForward NeuralNetwork (using BackPropagation; [see reference](#)), and is tested on EURUSD forex price time series.

## Bob

I designed and built an XML/Java binding library, similar to [XMLBeans](#). Bob lets you access and manipulate the data contained in an XML document using Java classes. It also contains an XPath implementation, for declaratively locating nodes in your object tree (see below, and [repo](#)):

- **XPath 2.0:** XPath 2.0 (the language) is a language for selecting a node or set of nodes in an XML document. XPath2.0 (the software) is a Java implementation of the language ([see repo](#)). It is part of the 'Bob' package. It gives users the ability to select a node or set of nodes in their generated 'Bob' object trees. This makes it easier for users to do fine grained selection and manipulation of their generated object trees.

## COMPUTER SKILLS

**Languages / Tools:** Clojure, Clojurescript, Coffeescript, Backbonejs, Requirejs, OpenID, Purejs, Javascript State Machine, Twitter Bootstrap, NoSQL (MongoDB, CouchDB, Datomic), Ruby / Rails, Rake , RSpec, J2EE/Java, Java Threads, O/R Libraries (Hibernate, Torque), Spring, EHCache, JAXB, Tibco, SQL, Groovy, Grails, EJBs, Servlets, JDBC, XML, XSL/XSLT, XPath, XQuery, Javascript, HAML, SCSS, sh/bash, vim, emacs, git, ant, make, shell scripts

**Methodologies:** Functional and OO Programming, DSL and Language Design, Artificial Intelligence & Neural Networks, Managing Agile projects, Systems Analysis and Design, Rich Internet Applications

**Platforms / Operating Systems:** Websphere, Oracle (8i, 9i, PL/SQL), Solaris, Linux (incl. Redhat, Mandrake), Weblogic, JBoss, Tibco, Tomcat, Jetty, DB2, MySql, Apple OS X, AIX

## PROFESSIONAL EXPERIENCE

**10/2011 - 04/2013**      **CONSULTANT:: Storydesk**, iPad Marketing Startup      Toronto Canada  
I built the [CloudEditor](#) (CE). The [CloudEditor](#) (CE), a Single Page Application, is Storydesk's web editing tool. It allows for immediate changes to an app. Text, photos, videos, and design elements can be easily adjusted on the fly, without any technical expertise. Changes appear in real time, on all iPads, as soon as the tablet is reconnected with the network. The CE and platform has been covered in publications like the [Wall Street Journal](#) and [CNBC](#).  
*technical environment: Coffeescript, Requirejs (AMD), Backbonejs, JQuery, HAML, SCSS, Compass CSS*

**11/2009 – 12/2010**      **CONSULTANT:: Rogers Digital Media**, Publishing      Toronto Canada  
Designed and built CASH (Content Aggregation and Syndication Hub) enhancements. Managed a small team to get the job done in under 3 months. Playing a Senior technical role building new content hub for all of Rogers' digital properties.  
*technical environment: Build application components, developed and deployed to Weblogic. Used the following tools: XML, XSLT, Groovy, Teamsite (Enterprise CMS), Javascript, Java/J2EE, Oracle, JQuery, Javascript*

**01/2008 – 12/2008**      **JAVA ANALYST:: Conde Nast**, Publishing      New York USA  
Portfolio.com is the web edition of Portfolio business magazine. The magazine won a National Magazine Award last year after publishing only a handful of issues, a rare accomplishment. Contributions include design and implementation of portions of the homepage redesign (see the sections under "Inside Portfolio"). Also implemented 3 community features under "Portfolio Insider" (journals, recent events, author alerts). I also maintained and built functionality to our editor authoring tool, Teamsite.  
*technical environment: Build application components, developed and deployed to Websphere. Used all of the following tools: XML, Spring, Hibernate, AJAX, EHCache, Eclipse, Oracle, SQL, Java 1.5., Groovy, Grails, Editor tools were done using Teamsite (Enterprise CMS), Javascript, Perl*

**10/2006 – 12/2007**      **CONSULTANT:: Deutsch Bank (c/o CGI)**, Financial Services      New York USA  
Deutsche Bank uses the Global Financing Calculator (GFC) application to manage detailed client information and calculate interest pricing information. Responsibilities included mapping existing data structure to object structure. Also architected the application tier responsible for data CRUD operations, and transport it to a Web-interface layer. Also, designed data transformation functionality that allowed the web tier to create, retrieve, update, and delete data in the data tier.  
*technical environment: Built application components using: AJAX, EJB (stateless session), Design Patterns (Visitor, Composite), Spring, Sybase, JSF (MyFaces), Tiles*

**10/2005 – 09/2006      COMPUTER ANALYST:: Lehman Brothers, Financial Services      New York USA**

Client needed a way to manage their Fixed Income securities in a Financial Trust. Designed and implemented a Trust Management application with another developer. Also, sped development time by introducing and implementing an XML Object binding framework (Sun reference JAXB implementation) that significantly reduced developer XML translation effort.

*technical environment: Created Bond/Trust calculator using the following tools: Java, JAXB, Hibernate, SQL/PL SQL, Tibco, XML, Eclipse, MS Visual Studio.NET, Windows XP*

**03/2004 – 12/2005      SR SOFTWARE CONSULTANT:: Bank of Montreal (IFL),      Toronto Canada**

Built a Rich Internet Application (RIA) framework / platform for a knowledge-management application (similar to: laszlosystems.com). Developers leveraged framework to build a UI system that was flexible, reusable, and separated data from application logic. Helped collect and define goals by introducing documentation and a requirements process. Prototyped the application, introducing component reuse through object patterns. Delivered a platform which reduced development time, increased the software solutions available to developers and increased system flexibility by giving developers fine-grained control of object and movie definition.

*technical environment: Built framework using tools: XML, Xpath, ECMAScript (Actionscript 1.0 - 2.0 / Javascript), AJAX, Flash MX / MX 2004, Flash Remoting, C#, MS Visual Studio.NET 2003, Windows 2000 / XP*

**03/2003 – 12/2003      SENIOR SOFTWARE CONSULTANT:: Recursive Design, IT Consulting      Toronto Canada**

Built a Rich Internet Application (RIA) framework / platform that is reusable across multiple applications. The custom, lightweight solution, Guibuilder, generated user interface components and behaviour from XML definitions. This tool led to the company-wide adoption of the "Laszlo Presentation Server" (LPS), a fully supported 3rd party RIA platform. LPS features reduced development time, increased UI robustness and reliability and was reused across multiple applications. Tasks included work on functionality for 3 projects. Utilized the LPS for a web app suite for building virtual communities and portals, a back-office system for a bank with loan and collateral management functionality, and for the user interface of trading-partner software.

*technical environment: Built RIA platform and business application components using: Java, Servlets, XML, AJAX, Flash, Laszlo Presentation Server (LPS), OO Scripting (Actionscript 1.0, Ruby), LDAP, JBoss, Tomcat, Jetty, Apple OS X, Linux*

**2002 - 2003      INTERMEDIATE SOFTWARE DEVELOPER:: The SPi Group, IT Consulting      Toronto Canada**

Enhanced performance and debugged errors of the HubConnector, an XML/flat file processor written in C++, using Oracle's XML parser. The HubConnector is Trading Partner Software for the majority of Ontario's independent electricity operators. It transfers business messages between Ontario's electricity clearinghouse operators. Responsibilities included releasing product upgrades with bug fixes, performance and memory improvements, and documentation. Reduced their overall system downtime.

*technical environment: Built application components and released software using the following tools: Java, JBoss, XSL/XSLT, XML, Torque(Object Relational library), C/C++, Visual C++ 5.0, .CSV/Flat File, Oracle 8i, Oracle PL/SQL, Windows 2000*

**2001 - 2002      J2EE CONSULTANT:: Swiss Re, et. al. (c/o Cognicase), IT Consulting      Toronto Canada**

Increased application performance and improved application access for a non-profit, community service organisation. Web-enabled a window-based user management application with the ability to search and match facilities and housing information. Implemented administration functionality for groups using Struts MVC framework. Refactoring Entity EJBs to reflect an updated data model and created 7 web administration screens to manage ISIS client data.

*technical environment: Built application components using the following tools: J2EE,(EJBs, Servlets, JSPs) , Struts, JUnit, Log4J, Windows 2000, Visual Age 4.0, Websphere 4.0, Visual Source Safe*

**2000 - 2001      JAVA DEVELOPER:: Channelwave Canada, CRM Software      Toronto Canada**

Challenge was to develop eConversations, an online selling tool. eConversations simulated human conversation exchanges, using fuzzy reasoning, to match users with products or solutions. As part of an Agile Development team, implemented functionality using Test Driven Design, XML-based object design and proven design patterns. Implemented several value-added features which facilitated sale of software to companies like Nortel, Honeywell, and General Electric, enabling them to get a richer understanding of their customer needs. eConversations increased their web site traffic, increased the volume of calls to sales agents, and was demonstrated at the 2001 PC Forum.

*technical environment: Built application components using the following tools: J2EE (incl. Servlets, JDBC), Enhydra XMLC, Linux, XML/XSLT, sh, ksh, OO design, XP, Weblogic, Tomcat, DB2, Vim, CVS, Ant, shell scripts*

## **EDUCATION**

### **1998 - 1999 CANADIAN SECURITIES COURSE**

Canadian Securities Institute; Toronto, Canada

### **1995 - 1999 BACHELOR OF COMMERCE; Finance, MIS**

Concordia University; Montreal, Canada

## **TESTIMONIALS**

### **Jordan Stolper      CEO / Co-founder at StoryDesk.com**

"Tim is a gifted developer - thoughtful, strategic, and careful. We hired him to develop the StoryDesk CloudEditor. He delivered a beautiful, one-of-a-kind HTML5 content management system for iPad. I offer Tim my highest recommendation, as a colleague and a friend".

### **Meghan Stewart      Consultant at Rogers Digital Media**

"I've had the pleasure of working with Tim as a consultant on site with Rogers Media. Timothy was reliable, technically savvy and very easy to communicate with on the client site and within our office. Tim was always helpful in helping our internal team understand cutting edge open source technologies, such as Ruby on Rails as well as Java technologies and what are great solutions to client concerns. I've been able to develop a great professional partnership with Tim because of his genuine approach to business and his strong work ethic on site".

### **Ed Abrams      Acrobat.com Architect at Adobe**

"I find Tim to be personable, creative and to have a seemingly limitless energy for trying new things. I consulted for him for a while, and we had a chance to interact on a bunch of technical features over the course of a few months. He has a great big-picture view and has the technical chops to spec, design and produce big software projects".

### **Stephen Kawaguchi      Front-end Engineer & UX Design Consultant; Bank of Montreal, IFL**

"Tim is one of the most intelligent, forward-thinking developers I've ever worked with. He possesses a deep pool of knowledge about all things related to software and uses that to engineer top-notch solutions. The diversity he's gained from experience with so many different languages and technologies gives him great perspective on technical approaches and strategies. He is also one of the most enthusiastic and proactive colleagues I've ever had the chance to work with, and I'm sure that he's up to any challenge that comes his way".