



# ALEX R.M. TURNER

Senior Software Engineer - Data Scientist

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I love software development, it is my foremost passion in life. When I'm not at work, I'm tinkering, learning about new technologies, ways to solve problems, better techniques, tools and algorithms.

My goal is to find a work environment where, as part of a team, we build innovation driven systems on cutting edge technologies that solve real business needs to create lasting business value. I want to work with others that share my deep passion for technology, mathematics and philosophy, who care about product quality, love to explore and embrace new technologies, and who refuse to settle for mediocre.

## TECHNOLOGIES:

- Java / JVM: J2EE (JEE 6), JMS, Spring, JPA 2, Hibernate, Stripes MVC, Solr 3.2, JAXB, JAX-RS, Restlet, AOP (AspectJ), JDBC, JSP, JSTL, Grails, Groovy, GORM, Scala, O/R Broker, Jersey, JMX
- Web and Rest: XML, XSD, XSLT, HTML, XHTML, Javascript, CSS, JSON, Ajax
- Middleware: Mule ESB 3, Jetty, OpenMQ, ActiveMQ, Tomcat
- Database: Oracle 11g, SQL Server 2008, PostgreSQL 9, MySQL
- Mathematics: SVM and kNN classifiers using TF/IDF as well as custom feature-spaces and ML techniques
- Tools: Maven, Git, IDEA IntelliJ, TeamCity, Amazon EC2, NetBeans

## EXPERIENCE

I have nearly 13 years of experience working in the technology industry, having been mostly involved in software development, but touching network engineering, database administration, hardware configuration, user interface design and more. My career has involved using a diverse range of technology, but the largest proportion has been Java and its related frameworks. Today I continue to expand my knowledge, moving into new JVM languages like Scala and Groovy as well as increasing my capability in mathematics and functional programming.

## MAY 2011 - PRESENT : ACTIVE NETWORK : DATA SCIENTIST

### TECHNOLOGY SUMMARY

- Java: J2EE, JMS, Spring, JPA 2, Hibernate, Stripes MVC, AOP, JDBC, JSP, JSTL, JAXB, JAX-RS, Scala
- Mathematics: SVM and kNN classifiers with custom feature-space mappings and varied kernel functions
- Web and Rest: XML, XSD, XSLT, JSON, HTML, Javascript, CSS, Restful endpoints
- Middleware: Tomcat, Jetty, Apache, ActiveMQ, OpenMQ, jBPM 5, Mule ESB
- Database: SQL Server 2008, PostgreSQL 9, Oracle 11g
- Tools: Maven, Ant, Git, Subversion, Apache Ivy, IDEA IntelliJ, TeamCity, Subversion, Amazon EC2, Jira, Crucible, Jenkins

### DETAILS

- Participated on an Agile team to develop information clustering and classification systems using a variety of mathematical techniques such as Decision Trees, SVM and kNN with varied kernel functions and custom feature spaces utilizing a custom tokenization library.
- Created an SOA style architecture for a core services system using Mule ESB including data ingestion in XML, transformation using Groovy and Java transforms, and propagation using Restful web-services and JMS message topics on OpenMQ and ActiveMQ.
- Created a fat-proxy in Scala to filter web-pages, extract content pieces using part of speech tagging, run on-the-fly classification and Grails to serve recommended and related content based on user browsing history combined with page classification, profile driven recommendations that leveraged a user's Facebook profile.

- Performed and communicated technology recommendations for all tiers of the architecture, working with multiple business units to determine the best middleware components to facilitate the smoothest integration.
- Coordinated the creation of a normalized XML schema and corollary XSDs used by Restful endpoints in an SOA architecture for both external consumption and internal product groups.
- Developed a Solr driven search prototype including Stripes MVC based Web UI, Solr schema design, document export, transformation, and propagation through the Solr Restful API for search index ingestion.
- Created a Web based administration and human task tool for a data research team to do manual asset correction for assets the automated processing flow marked for exception processing.

## **FEB 2009 - MAY 2011 : ACTIVE NETWORK : PROGRAMMER**

### **TECHNOLOGY SUMMARY**

- Java: J2EE, JMS, Spring 2, JPA 2 (Hibernate, Eclipselink), JUnit, Stripes MVC, AOP, JDBC, JSP, JSTL
- Web and Rest: XSD, XSLT, HTML, Javascript, CSS
- Middleware: Tomcat, Jetty, Apache, nginx, ActiveMQ
- Database: MySQL 5, SQL Server 2005, PostgreSQL 8
- Tools: Maven, Ant, Git, IDEA IntelliJ, TeamCity, NetBeans, YourKit, Amazon EC2, Amazon RDS
- Systems: Linux (RedHat 5), Windows 2005, Amazon ELB, BIND 9, NIS, SSH, IPTables, Cron, Perl, Postfix

### **DETAILS**

- Re-architected the core product to align with new business objectives, including new database architecture to encompass much wider functionality incorporating data from each of the three pillar systems. Lead the Java team on implementation of the administration system and API servers. Performed cross-team training on tools, and did integration co-ordination between the Java team, and the two .NET teams.
- Participated as part of an Agile team to create a Java web application for data administration and manual data correction that incorporated a JMS driven clustered back-end along with bulk data processing capability using Stripes MVC on Tomcat from action bean classes to HTML, CSS and graphics.
- Performed migration of hosting from a physical hosting provider to cloud computing using Amazon EC2 and Amazon RDS including sizing, scalability testing, OS configuration, load balancer configuration (ELB, Apache and nginx) and database configuration.
- Performed product development on the legacy PHP / MySQL system for product enhancements including Flickr integration, User Generated Content and improved data aggregates presentation.

## **FEB 2008 - FEB 2009 : ACTIVE NETWORK : CONSULTANT (LEAD PROGRAMER)**

### **TECHNOLOGY SUMMARY**

- Java: Java 5, Spring 2, JPA 1, Hibernate, JDBC, JSP, JSTL
- Other Tech PHP 5, Perl, HTML, Javascript, CSS
- Database: MySQL 5
- Tools: Ant, Subversion, Bazaar, Netbeans, Visio, Microsoft Project, YourKit
- Systems: Linux (RedHat 5, CentOS 5)

### **DETAILS**

- Responsible for technology on four sports-based web properties, football, baseball, softball and basketball power.
- Performed project planning and architectural decisions on the product's technology direction, including platform choices, framework choices and relational database design.
- Oversaw and tutored junior employees in modern OO techniques and database design.
- Performed updates in PHP to a web property, sportspower.com, that used MySQL and PHPFUSE, an object oriented PHP library with an Object-Relational abstraction layer.
- Updated algorithmic processing system in Java to use JDBC for data store, then updated the application to Hibernate and JPA 1. Did performance profiling and optimization of this processing module to decrease processing time and reduce memory usage using YourKit.

## **FEB 2009 - MAY 2009 : SERIAL SOLUTIONS : CONSULTANT**

### **DETAILS**

- Acted in an architectural advisory capacity as part of a panel to evaluate and recommend consulting resources and a technology path for a large-scale document search system.
- Participated in an Agile architectural team to develop a large scale architecture for a document ingestion, processing and search system designed to handle a corpus of around one billion documents.
- Performed hardware configuration and provisioning for an alpha deployment involving a 9TB test data set.
- Participated in an international team of remote developers and was responsible for hardware configuration, OS configuration and development of a document data policy system.

### **TECHNOLOGY SUMMARY**

- Java: J2EE (JEE 6), Solr, JMS, Spring 2, Stripes MVC, JDBC, JSP, JSTL
- Web and Rest: XML, XSD, XSLT, HTML, Javascript, CSS
- Tools: Maven, Git, IDEA IntelliJ, TeamCity, Omnigraffle

## **OCT 2005 - FEB 2009 : INDEPENDENT CONSULTANT**

### **DETAILS**

- Worked as an individual contributor in both solo capacities and team environments on a wide variety of problems.
- Developed an MLS Search engine for the Philadelphia region property market from database design through application architecture to user-facing web design. This search system was expanded to incorporate other areas including luxury property in Costa Rica. The system was built using PostgreSQL, Java, JPA, Stripes MVC and Spring.
- Created an education materials system for Accuweather for grade school teaching staff to provide both lesson content, and allow teachers to track their progress against state standards. The system provided content management tools including multi-lingual support and staged publishing. Built using PHP and PostgreSQL.
- Created a travel planner website for families who participate in Hockey Leagues to help them plan trips to away games across the US. The system incorporated data from Yellow Pages, used Google Maps and supported a sales staff selling to vendors across the country to generate revenue for priority placement on the local businesses section of the site.
- Created a project management tool for a printing company to track clients through the stages of their process including detailed pricing and print job specification using Java, Stripes MVC and Spring.

## **NOV 2004 – NOV 2005 : SOFTWARE ARCHITECT – NETECONOMIST**

Database driven search systems. Client services, Network management, DBA and Sysadmin. BPM style system.

## **NOV 2002 – OCT 2003 : LEAD DEVELOPER – NETECONOMIST**

Database driven web systems, client services, DBA, Sysadmin, Networks. PHP, Perl, Python, PostgreSQL

## **NOV 2003 – NOV 2004 : SENIOR SOFTWARE ENGINEER – OCTAGON RESEARCH SOLUTIONS**

J2EE development on Oracle DB, Swing based UI for PDF editing, eCTD submission software for Pharmas

## **NOV 2001 – OCT 2002 : PROGRAMMER – CONEXUS**

Music Recognition Software, C++ algorithm software on Linux, Java UIs, Python for data transfer, Alsa drivers.

## **OCT 1999 – NOV 2001: PROGRAMMER – INFONAUTICS INC.**

Perl, ColdFusion, PHP, C on Oracle and PostgreSQL doing content aggregation, filtering and dissemination.

## **MAY 1999 – OCT 1999 : PROGRAMMER – MAACO ENTERPRISES**

Java UI development on Windows and Linux systems administration.

## **Education**

- Southampton University – BSc Computer Science
- Colchester VI<sup>th</sup> Form College, A-Levels in Physics, Chemistry, Music, Music Practical and General Studies.