Matthew Ball

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Experience

HubSpot ∘ Software Engineer — 2012 - present

· Primarily developing JSON APIs as part of the Integrations team. Right now we're mostly integrating with `salesforce.com`.

Technologies: Java, Jetty, Tomcat, JAX-RS, MySQL, Guava, JUnit, Maven, Git, ZooKeeper, Hadoop, HBase, Apex, Python.

BzzAgent ∘ Java Engineer — 2011 - 2012

· Responsible for developing the BzzAgent platform, `bzzagent.com`, as the business model evolves: feature design and implementation, paying down technical debt, and reducing page load times. Improving code quality with unit tests, FindBugs, and peer code review. Participating in and working to improve the team's Scrum process. Built a JSON API which underpins the BzzAgent iOS app.

Technologies: Java, Tomcat, Play Framework, JAX-RS, PostgreSQL, JSP/servlets, Struts, Stripes, JDBC, Lucene, Apache Commons, Guava, JUnit, Ant, Git.

Lapis Software ∘ Software Developer — 2009 - 2011

· Implemented a RESTful API and backend for secure, realtime lottery ticket purchasing on mobile devices in the Chinese Welfare Lottery. Designed and implemented a protocol and backend for reliable asynchronous communication with a black-box ticket system, and a third-party banking API.

· Created an intranet web application for back office state lottery operations by Scientific Games (`scigames.com`). Deployed to state lotteries including Connecticut, Indiana, Iowa, and Pennsylvania.

· Designed and implemented an executive-centric dashboard for the Colorado State Lottery, which bridged an information gap between lottery management and operations staff.

Technologies: Java EE, JBoss, GlassFish, SQL Server, DB2, JSF 2, JSP/servlets, JAX-RS, JPA, EJB 3, Hibernate, EclipseLink, Guava, Ehcache, Hazelcast, XStream, HTML5, CSS, jQuery, YUI, Google Maps and Visualization APIs, CVS, SVN, Mercurial.

Lapis Software ∘ Software Development Intern — Summer 2008

· Developed and bugfixed Version 1 of the Smart Measurement System, a health survey system at `amihealthy.com`. Built a CMS-like administrator area for managing users and survey groups, and for defining flexible, dynamic health surveys. Improved security and cross-browser compatibility.

Technologies: Java EE 5, JBoss 4, MySQL, JSP/servlets, EJB 2, Hibernate.

Undergraduate Thesis Research ∘ Development of a Web-Based Water Wave Viewer — 2008-2009

· Worked with Mathematics professors to create a prototype web application for visualizing and exploring large data sets. Ported C++ command-line client to Python using Python wrappers. Designed and implemented a web viewer to browse and display existing results.

Technologies: Python, NumPy, Trilinos, SWIG, gnuplot, XML, HTML, CSS, jQuery, Flot.

Education

Sc.B. Physics with Honors ∘ Brown University ∘ Providence, RI ∘ Class of 2009

· Selected Coursework:

Computer Science: Models of Computation · Computer Systems · Software Engineering · Networking

Physics: Classical Mechanics · Quantum Mechanics · Electrodynamics · Thermodynamics · Cosmology

Mathematics: Multivariable Calculus · Linear Algebra · Cryptography · Probability · ODEs & PDEs

Abington Friends School Abington, PA ∘ GPA: 4.0 ∘ Class of 2005

Additional Projects

Brown University Physics Department ∘ Summer Researcher, High Energy Theory Group — Summer 2007

· Participated in search for subatomic particles predicted by technicolor physics models. Evaluated and tested Open MPI for comparing Monte Carlo methods. Developed a series of Unix programs to expedite configuration and execution of large simulations. Created templates for manipulating results in ROOT, a data analysis library developed by CERN.

Technologies: C++, Bash, Open MPI, ROOT.

Brown Opera Productions ∘ Board Member — 2005 - 2009

· Board member of and webmaster for BOP, a student theatre group founded in 2005. Served as technical director for BOP's first four full-length operatic productions. Rebuilt outdated website as a Wordpress site with a custom theme, image gallery, spam resistance, and ticket reservation system.