Ben Tilly

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OBJECTIVE Senior Developer/Data Scientist with experience and a strong record of success seeks a new position where he can make a major impact.

AREAS OF EXPERTISE

• A/B testing replaces guesswork with using statistics to measure the impact of website changes. I have directly or indirectly helped a half-dozen companies implement A/B testing. All improved key business metrics by at least +20%. See my OSCON tutorial at http://elem.com/~btilly/effective-ab-testing/ for more detail.

• Data Science is the art of extracting relevant information out of data. It includes tasks as diverse as financial reporting, business intelligence, click stream data mining, machine learning and maintaining data warehouses. I have done all of these, and have a deep understanding of how to manipulate large data sets.

• I am an internationally recognized Perl expert with contributions to the Perl core, CPAN modules and activity on technical forums. I was on The Perl Foundation's Grant Committee for a decade and was the technical editor for Learning Perl, 3rd edition [ISBN: 0596001320].

• I am comfortable with many programming languages. I have programmed in over a dozen languages, including Python, Perl, JavaScript, Lua, C++, Java, PL/SQL, Ruby, and C. Picking up another would be easy for me.

• I have used a wide variety of web technologies including GraphQL, nginx, Apache, Node.js, XML, HTML, CSS, OAuth 2.0,WSGI, and CGI.

• I have extensive database experience, including deep experience with optimizing performance. Relational databases that I have used include PostgreSQL, MySQL, SQLite, Oracle and Sybase. As well, I have worked with many NoSQL databases such as Redis, DynamoDB, Endeca, BigTable, BigQuery, Solr and BerkeleyDB.

• I am comfortable across operating systems, including Windows, Unix, Linux, and OS X.

• I have used many source control systems including git, svn, and CVS.

• I have used many frameworks including Django, node.js, sequelize, mod_perl, DBIx::Class, STL, and so on.

• I have worked in a variety of environments, including monolithic, distributed, on prem, cloud, and various hybrid combinations. This includes working with Docker, Kubernetes, Puppet, Chef, and various home-grown solutions for maintaining the environment.

• My personal strengths include strong analytical and mathematical skills, good work ethic, strong troubleshooting skills, an outgoing personality and an upbeat attitude.

EXPERIENCE

Contractor — March 2022 - Present

As a developer in a variety of environments I:

• Wrote software to automatically set up and dynamically manage Solr permissions within a shared system.

• Created a data bridge to keep systems synchronized. The slave system ran asynchronously off of a configuration defined by a SQLAlchemy model.

• Built a variety of reports pulling from custom connectors in Looker Studio.

Senior Software Engineer, ThinkIQ, Aliso Viejo, CA —
Sept 2019 - Feb 2022

I was a key developer in a company providing data insights for smart factories/ Working in both on prem and cloud environments, using Kubernetes and Docker, I:

• Developed a GraphQL API for data services, which became a default API across multiple products.

• Developed an ETL framework for ingesting factory time series data for many clients.

• For a custom time series database, wrote a compiler in plsql that allowed secure and controlled access to advanced analytics.

• Developed Calculus-based analytics to convert data from fixed sensors into a dynamic history of things moving past those sensors.

Senior Software Engineer, Brandify, Anaheim, CA —
June 2016 - Aug 2019

As the lead developer for a local data syndication company in a hybrid environment I:

• Improved internal tooling to streamline business processes.

• Developed caching algorithms for throughput optimization.

• Built highly available pipelines to publish data to Google, Bing, Facebook, Yelp, etc using social APIs.

• Lead the remote team responsible for the core revenue generating product.

• Helped with knowledge transfer for a major rewrite.

Data Scientist, FanServ, Irvine, CA — July 2015 - May
2016

At an early stage sports advertising startup I:

• Developed the data model for ad serving architecture.

• Implemented a subset-match algorithm for ad serving. Implemented inside of Redis in Lua.

• Set up data pipelines with real time summarization for reporting.

Software Development Engineer, Amazon, Irvine, CA — Nov 2014 - June 2015

As an SDE in Personalization for App Store I:

• Did historical analysis of monetization through in app purchases.

• Created similarities data sets for app purchases.

• Improved API monitoring.

Senior Software Engineer, Rent.com, Santa Monica, CA — June 2013 - Oct 2014

I returned to Rent.com after their acquisition by Primedia to help with migration projects. My tasks included:

• Lead for migrating the site back end from Oracle to Endeca.

• Enabled Perl client access to OAuth 2.0 APIs by writing LWP::Authen::OAuth2. This was used for BigQuery and Facebook.

• Integrated Zuora for subscription billing management.

Independent Contractor — Mar 2012 - June 2013

As a part time contractor I took in a number of projects including:

• Wrote an A/B testing system for ZipRecruiter. Suggested, implemented, and tested a number of improvements, which grew the business substantially.

• Wrote a continually optimizing subject line generator for ZipRecruiter. Some of the successful subject lines were "borrowed" by other companies, such as LinkedIn.

• Wrote a machine learning system for Campus Explorer to better predict conversion rates. This about 10k lines of code in a mix of Perl and C++.

Software Developer, Media Temple, Torrance, CA — Mar 2011 - Mar 2012

I worked at Media Temple as a software developer in a cloud environment. While there I:

• Developed several new reports, Including one that identified which customers have been generating significant revenue through recommendations.

• Working on a new database, associated libraries and deployment scripts for a new product line that was under development.

Site Reliability Engineer, Google, Santa Monica, CA — Jan 2010 - Jan 2011

I worked at Google as a Site Reliability Engineer. Site Reliability Engineering is an unusual cross between software development and system administration. SRE assists application developers with production issues. This assistance can be anything from consulting on how to address production issues to completely taking over production support for a product. As a Site Reliability Engineer I:

• Brought a back end service under SRE support. For this I had to audit the service, rewrite their monitoring, rewrite their playbook, document how everything service worked, and teach the rest of my team about the service. In the process I discovered and fixed many of their bugs.
• Developed a unit test framework for scripts used inside of an internal reporting framework. This sped the development of reports and improved their reliability.

• Modified the interface for silencing alerts to make it easier to silence alerts to a particular date. This improvement helps everyone at Google who has to answer pages.

Principal Software Engineer, Oversee.net, Los Angeles, CA — April 2009 - Dec 2009

I worked within Oversee on LowFares.com during a period of rapid growth. At LowFares I:

• Helped develop multiple versions of the site to find a version that met Google's standards and would help the business to grow.

• Found and fixed multiple major problems with cron jobs, and took steps to ensure that future failures would not go unnoticed. No longer does 2/3 of activity log data get silently discarded.

• Added several advertising feeds to the site.

• Was part of developer-lead process improvements that introduced best practices like mandatory code review.

Reporting Architect, Pictage, Torrance, CA— June 2007 — April 2009

Pictage assists photographers. Photographers photograph an event, upload it to Pictage, and let Pictage take care of fulfilling orders and marketing to their clients. While I have been at Pictage the company grew 35% in 1 year to ~ $35 million/year in revenue. At Pictage I:

• Introduced A/B testing. This has improved consumer revenue/event over 25% so far.

• Replaced the system by which we generate email lists. This has helped us introduce very effective targeted email campaigns to drive specific user behavior.

• Created a reporting system and many reports for internal use. A web interface allows each report to parametrize back end templates in many ways.. Users can then build complex spreadsheets that use these reports as a data source and will update with a refresh. These spreadsheets are used through the company for purposes ranging from daily monitoring of the business, identifying problem orders, building forecasts, auditing financial systems, compensating sales people, and identifying best practices for photographers. This has replaced the previous limited, complex and slow ad hoc reports, creating common data definitions across the company.

Senior Software Engineer, Rent.com, Santa Monica, CA — Aug 2003 - Jan 2005
Senior Reporting Engineer, Rent.com, Santa Monica, CA — Feb 2005 - May 2007
Rent.com helps people rent apartments. Rent.com gets a finder's fee from the apartment owner and then passes $100 to the renter. While I was there revenue grew from $20 million/year to $80 million/year. with a profit margin of around 30%. At peak times the site delivers over a million pages per hour using a dozen commodity web-servers. It was sold to eBay for $433 million in

Feb, 2005. My projects at Rent.com included:

• Researching and implementing A/B testing. The first successful A/B test grew revenue by 40%, and continued website refinement through A/B testing became an ongoing source of incremental growth.

• Creating tools to streamline the acquisition and management of affiliates. Affiliates are a major source of website traffic, and so were critical to the growth of Rent.com.

• Helped with the design and analysis of our targeted renter phoning project, then did most of the implementation. This created a substantial revenue increase.

• Solving several website performance and scalability issues that were inhibiting growth.
• Developing and extended many reports for both internal and external use. Sometimes I had to create complex summary tables in the data warehouse for these reports.

• Performing oneoff analysis of large data sets as needed.

Senior Programmer, Trepp LLC, New York, NY — Oct 1998 - Apr 2003

Trepp LLC creates and maintains models of bonds which are backed by loans on commercial real estate. When I arrived they had a limited desktop client, ~20 users, about $1 million/year in revenue, models for about 100 bond deals, and were at risk of going out of business. When I left they had doubled in size, added new products such as interactive Bloomberg and web interfaces, revenues were $15 million/year, they had over 5000 users, models for around 400 bond deals, and their main competitor was going out of business. Among my responsibilities were:

• Data delivery. Trepp's purpose is to deliver accurate data, but had daily failures requiring manual intervention when I started. By the time I left the system reliably and promptly delivered far more data to a far more complex set of products.

• Helping financial analysts by building tools to streamline their workflow.

• Testing and introducing new technologies and infrastructure. Open source technologies that I introduced included Linux, Apache, VNC, Samba, and rsync. I set up and configured the development machine and repository that was later used for web development.

• Evaluating new product opportunities, particularly on the web. My involvement ranged from co-developing our pilot website to implementing large portions of our final website to mentoring other developers were were less experienced with Perl and web technologies.

Consultant, Tigris, New York, NY — Nov 1997 - Oct 1998

Tigris was a small consultancy that specialized in developing applications that were used in supply chain management. While I was there the company had about 20 people. While there I:

• Was asked to learn Perl then teach it to my fellow consultants.

• Wrote a desktop reporting application for internal use within Bristol-Myers Squibb. No application in the history of Tigris had been used by more people, or required less support.

EDUCATION 1988-1992: B.S. in Mathematics, University of

Victoria, Victoria, BC.

1992-1994: M.S. in Mathematics, Dartmouth College, Hanover, NH

1994-1997: PhD work in Mathematics (ABD in combinatorics relating to partially ordered sets), Dartmouth College, Hanover NH

RELATED ACTIVITY/INDUSTRY PARTICIPATION

• Series of articles on how to correctly do A/B test statistics for tests that you'll be looking at while they are running: http://elem.com/~btilly/ab-testing-multiple-looks/index.html

• Author of multiple patches in Perl and other open source projects

• Member of The Perl Foundation's Grant Committee

• CPAN directory: http://search.cpan.org/author/TILLY/

• Taught tutorial on A/B testing at OSCON 2008: http://elem.com/~btilly/effective-ab-testing/

• Co-author of *A Refutation of Metcalfe's Law*, see http://www.dtc.umn.edu/~odlyzko/doc/metcalfe.pdf

• Technical editor for Learning Perl, 3rd edition [ISBN: 0596001320]
• Taught tutorial on how to keep Perl maintainable at LinuxWorld 2000

• Active on multiple technical websites and mailing lists