

Dave Benvenuti

Freelance Software Engineer/Architect

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EXPERIENCE

Independent Contractor — *Software Engineer/Architect*

June 2014 - PRESENT

I am currently working as a Freelance Software Engineer, helping small and medium sized companies solve technical problems they lack the internal bandwidth or resources for. I help clients at every stage from idea to production. Current and past clients include:

- Backupify - a world leader in Cloud Backup
- Supplet - a subscription service for expecting mothers
- Logcheck - "How Rounds Get Done" - a modern logging and monitoring solution for building management
- Gemr - a community for collectors
- Altman Vilandrie & Co. - Strategic Consultants specializing in the Telecom, Media, and Technology spaces

Practical Assurance, Somerville, MA — *CTO/Cofounder*

June 2014 - PRESENT

Freelance Software Development work has enabled me to bootstrap Practical Assurance, the first SaaS security and compliance solution targeted at small and medium sized businesses. Our goal is to make give companies a roadmap for compliance, and ease the headache by providing an out-of-the-box Turbotax-style solution for half a dozen common security frameworks such as HIPAA, SOC 2, and ISO 27001

- Built our entire service-oriented, API-first product from scratch
- RESTful API built in Rails with PostgreSQL on RDS, front end in React.js
- Provides a simple to use interface where users can clone existing out-of-the-box frameworks and controls and customize them for their specific needs, defining questions that require boolean, plaintext, numeric, and other answer types
- DevOps and AWS deployment fully automated using Rubber

Languages/Frameworks

Ruby/Rails, node.js, React, Angular, JQuery, Java, Scala, Cocoa/Objective-C, PHP, Python, HTML, HAML, SASS, CSS, C/C++,

Datastores

Cassandra, Redis, PostgreSQL w/ PostGIS, MySQL, MSSQL

Deployment Environments

AWS, Digital Ocean, vSphere, Heroku

Operating Systems

Linux (Ubuntu, Debian, Arch, CentOS), OSX, Windows

Viral Philanthropy, Inc., Somerville, MA — *Technical Advisor/Chief Architect*

January 2016 - PRESENT

Viral Philanthropy is a company specializing in financial technology for charitable transactions. I have been service as part time Chief Architect on a product called PandaPay, which can be thought of as Stripe for Donations.

- Scaled existing backend to be able to process 200 donations/minute
- Refactored API codebase to conform to modern Rails standards and best practices
- Integrated with Spreedly for payment processor multiplexing
- Implemented a subscription service using Stripe Connect which bills companies for a configurable percentage of all charges to be sent to the charity of their choosing

Ping4, Nashua, NH — *Principal Engineer*

April 2013 - June 2014

Ping4 is an emerging force in hyperlocal emergency management and messaging. At Ping4 I have helped architect and build a truly unique solution to anonymously message mobile devices within very well defined geographic boundaries for purposes of disaster relief and public safety. The majority of my work for Ping4 has been remote from Boston. Some highlights:

- Helped rearchitect the existing platform to be capable of pushing alerts to several thousand mobile devices a second
- Integrated our application with FEMA's IPAWS API, an older XMLSec-based system that allows us to send Public Safety alerts using the WEA system to devices that don't have our mobile app installed
- Implemented a load testing system giving us the ability to easily run weekly load tests and detect performance slippages before we release to production
- Helped move environments from difficult to work with bare metal environments to a vSphere-based cloud-like environment
- Implemented several user-facing features based directly on customer requests, including:
 - Recurring beach condition alerts for the State of Florida, complete with up-to-date weather data from Weather Underground
 - Give agencies the ability to save and reuse Alert templates
 - Allow agencies to link their Twitter account so that Alerts sent would also be auto-shared on Twitter

- Built an admin dashboard allowing QA and Support to much more easily debug both staging and live site issues, all while maintaining end-user anonymity
- Worked with the VPE to put in place a streamlined weekly release cycle

Backupify, Cambridge, MA — Senior Software Engineer

September 2010 - April 2013

Backupify is one of the world's first Cloud Backup applications, backing up over 1 million active SaaS accounts containing billions of records for services like Google Apps, Salesforce, Facebook, Twitter, Flickr, and Picasa

- Team Lead on the Platform/Architecture group
 - Implemented a PostgreSQL read-only mode so database maintenance and database failures can occur without the site going offline
 - Designed an implemented internal APIs so that Backupify's monolithic codebase could be broken out into a modular Service Oriented Architecture
 - Maintained and contributed to EC2 deployment configuration and infrastructure
- Deployed and maintain the 21 node, multi-billion record, ~10TB Cassandra cluster, responsible for storing backup metadata for all customer backups
- Implemented Backupify's original billing system which processed all credit card transactions on the website, including new signups and upgrades
- Maintained Backupify's resque setup, responsible for processes millions of backup jobs a day, and improved this system by contributing to both the resque open source project and writing and maintaining resque plugins
- Worked on a small team selected to build a partner white-label product, which involved a complete overhaul of their Twitter and Facebook backup products

TripAdvisor LLC, Newton, MA — Software Engineer

April 2008 - September 2010

TripAdvisor is one of the largest travel websites in the world, providing over 10 million user-submitted reviews of hotels, restaurants, attractions, and locations to over 25 million visitors monthly.

- Revamped TripAdvisor's Facebook Connect in an effort to increase registered member counts, as well as provide the foundation needed to drastically extend TripAdvisor-Facebook interoperability (leveraging Facebook's newly-released "Like" Button and Open Graph technologies).

- Implemented changes to TripAdvisor Restaurant Listing from the front end to back, providing the user with a much more polished product. Changes included a UI overhaul, adding restaurant information, extending ratings summary algorithms to provide aggregate, categorizing ratings information to the end user, and importing thousands of restaurant website and menu information gathered from third party sources.
- Streamlined User Review management and classification by improving algorithmic review classifiers used to automatically distinguish publishable reviews. Extended this existing functionality to major European points of sale, and implemented a front-end system which allowed users to report inappropriate content and help remove it from the site. This saved the company a great deal of money it would have otherwise spent hand-classifying thousands of reviews.
- Implemented several strategies to improve TripAdvisor's geocoding data for properties and attractions for use in conjunction with the Google Maps API on the live site.
- Used scripting languages such as PHP and Ruby to implement and maintain a variety of internal applications used daily at TripAdvisor, including their project management system, ticket request system, a system for code reviews, and an internal Twitter clone used for communications.

Savant Systems LLC, Osterville, MA — *Software Engineer*

January 2006 - March 2008

Only a few years after introducing the world's first fully functional, easily configurable Apple-based home control system, Savant not only leads, but defines the industry of modern home and multimedia automation and control

- Implemented configuration-driven application used to render a fully-functional dynamic touch screen interface for use in Savant's custom Apple-based touch panels using Cocoa/Objective-C. This application proved to perform significantly better than its previous incarnation, allowing the company to develop much more sophisticated products for the touch panel.
- Laid the groundwork for Savant's media server used to power their multi-room audio and video solution. My work involved providing the middleware between the UI and the user's media collection to allow querying of music and video by various criteria, as well as browse by metadata and extract album art for the UI.
- Reverse-engineered Apple's earlier implementation of Quartz Composer which transformed a utility intended to create screen

savers into a fully functional, configuration-driven touch panel and on-screen user interface authoring environment, before Apple had released a public API.

EDUCATION

University of Connecticut, Storrs, CT — BSE

September 2001 - December 2005

Bachelor of Science in Engineering in Computer Science and Engineering, Minor in Mathematics

PROJECTS/OPEN SOURCE

Rubber— *a simple DevOps framework*

Rubber is a Capistrano plugin that enables relatively complex multi-instance deployments of web applications to Amazon's Elastic Compute Cloud (EC2), Digital Ocean, Rackspace, as well as any other Fog-supported cloud provider