Adam Ferguson

Senior Software Engineer

Contact

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Location

Region	NC

Work Experience

2020–07–01 TILL TODAY

Senior Software Engineer at **Delta Bravo:**

Data Science, DevOps, Web Application Development

- Creation of ML Models used to optimize manufacturing processes of client firms
- Development of web applications used by clients to visualize predictions made by ML Models. Projects used React, Hasura, FastAPI, and PostgreSQL.
- Build Helm Charts and CI/CD pipelines used for deploying web applications
- Feature development on Kubernetes based ML Platform in Golang, GraphQL, React, PostgreSQL, and Argo

2019–08–12 TILL 2020–06–30

Senior AI Developer at **Ally Financial:**

DevOps, Services based Application Development

- Build CI/CD pipeline for deployment of multiple services for AI team. Terraform for AWS deployment, Helm for Openshift deployment, Jenkins for CI/CD
- Researched and led architecture choices for the use of Rasa as a primary component of Ally's chatbot platform.
- Developed and unit tested AWS Lambda's for use by an existing AWS Lex bot used in Ally's chatbot platform.

2017–04–10 TILL 2019–08–09

Senior Software Engineer at **Invue Security Inc.:**

Cloud Infrastructure, DevOps, Full Stack Web, Android, IOT, Serverless

- Lead developer on 'Access Manager', a web application that provides Zoning and Auditing of InVue devices. Project uses React on the frontend, NodeJS/ExpressJS/Postgresql on the backend. A Java application server is used for communicating with InVue devices in the store. A native Android App that talks to the backend for site setup. Deployment and provisioning to GCP using Ansible.
- Lead developer on 'Insight', a web application that provides reporting on planogram compliance and customer interactions on mobile devices. Project uses React/Redux on the frontend and NodeJS, ExpressJS on the backend. Device communication is handled via the Serverless framework with the use of AWS Lambda, AWS API Gateway, and DynamoDB. Deployed and provisioned using Ansible and Docker.
- Features, bugfixes, performance enhancements, and systems administration on 'Microsigns'. A web application that leveraged a microservices architecture using Node w/ PostgreSQL on the backend and AngularJS on the frontend. Deployed to AWS using Ansible and Docker.

2015-01-10 TILL 2017-03-31

Data Engineer and Application Development Consultant at **Ferguson Software Services onsite at Mood Media:**

Systems Integration and Web Application Development

- Integrated multiple systems using ETL with Python, and SQLAlchemy
- Assisted in development of web application using C# on the backend and AngularJS on the frontend.
- Developed and maintained multiple Ruby on Rails applications that used various client side javascript frameworks, including ReactJS and BackboneJS
- Migrated an existing data warehousing solution from MongoDB to Redshift

2014-08-15 TILL 2015-01-07

Web Development Consultant at **Ally Financial through OpenSystems Technologies:**

- Part of team that developed Ally's online banking frontend as an EmberJS application
- Customized and completed several variants of the build process used by whole team for development and deployment. Tools used included Rake Pipeline, RequireJS, Broccoli, Ember-CLI, and ES6.
- Reworked build process to create a mobile specific version of the online banking application. Added mobile specific customizations to the application.

2013-02-14 TILL 2014-08-10

Senior Software Engineer at **Technekes/Connexiolabs:**

- Lead developer on call center application used by all of Technekes call center employees. Project used EmberJS on the front end, Ruby on Rails on the backend along with MongoDB, ElasticSearch, and Postgresql. Twilio was used for telephony.
- Developed a realtime dashboard using EmberJS and Ruby on Rails that allowed administrators to monitor the status and listen to ongoing calls. Pubnub was used for realtime communication between the client and server.
- Part of small developer team that was split off from Technekes to form a separate, product focused, startup 'Connexiolabs'. Developed several marketing focused applications and web services as a part of that startup using a Microservices architecture.

2011-07-05 TILL 2013-02-07

Senior Software Developer at **Mood Media/Muzak LLC:**

- Founding member of the New Product Development team. Designed and developed multiple web and mobile applications including OnlineDJ, Klikt, Sonictap, and MyMuzak.
- Developed the backend of MyMuzak, Klikt, and OnlineDJ using Ruby on Rails. Used MySQL, Sphinx, and Solr for data storage and free text search. Applications were developed using BDD and TDD techniques including the use of Cucumber and RSpec.
- Developed mobile applications for the customer loyalty application, Klikt. Developed a native Android application in Java using SpringAndroid, Roboguice, Android Annotations, OrmLite, and Jackson.
- Used BackboneJS for developing rich client side features in OnlineDJ and MyMuzak. Developed the Klikt iPhone app using phonegap and BackboneJS.
- Used DevOps tools and techniques including Jenkins for continuous integration, Capistrano for automated deployments, and Chef for server provisioning.
- Integrated applications with several third party services including Facebook, Twitter, Mailchimp, AppFigures, and Google Maps.

2008-03-15 TILL 2011-05-15

Software Engineer at **Public Consulting Group:**

- Lead developer on BehaviorPlus, a web app for tracking behavior issues in grade school students. BehaviorPlus integrated with EasyIEP, an existing application that helps school districts comply with laws around services for special education students.

Developed backend code in SQL and Perl, frontend code in HTML, CSS, and Javascript, jQuery and PrototypeJS. SQL Server 2000 and IIS were initially used as DB and application servers. Later migrated to SQL Server 2005 and Apache.

Assisted in creating stylesheets that defined interface standards for all commonly displayed elements in pages within the web app.

Led the configuration, training, and release of the issue tracking tool JIRA within the company.

Developed scripts used for common system administration tasks using Perl.

2007-04-16 TILL 2008-03-10

Business Systems Analyst at **SNL Financial:**

Maintained and acted as content expert for Institutional Ownership, Insider Trading and Short Interest datasets within the company.

Communicated with third-party vendors for content and technical specifications related to datafeeds.

Drafted technical specifications for converting manual collection and entry of credit ratings from three major credit rating agencies (S&P, Moody's, and Fitch) to automated process including specifications for software used for feed maintenance.

Derived dataset statistics for senior management and sales teams for use in contract negotiations and marketing materials using SQL and proprietary Excel plug-in, SNLxl.

Troubleshot problems reported in SQL Server 2005 stored procedures used for calculating SNL's internal market indices.

2004-06-01 TILL 2006-06-01

IGERT Fellow at **National Science Foundation:**

Led and assisted in various research projects interested in examining economic aspects of the emerging wireless technology cognitive radio.

Conducted regression analysis on data collected in Economics Experiments in STATA. Results included in journal publications.

2002-05-15 TILL 2006-06-01

Programmer/Lab Assistant at **Economics Dept. at Virginia Tech:**

Development, analysis, and refinement of a system (WITS) that used Palm Pilots as clients and a central server to simulate market scenarios in Economics classes.

Programming in C# and data collection and analysis.

Web design for WITS project

2001-05-15 TILL 2003-08-15

Research Assistant at **Virginia Tech Transportation Institute:**

Extract and analyze relevant data from transportation focused human factors studies using Excel, VB.NET, and SQL Server.

EDUCATION

2004-05-15 TILL 2006-05-15

Virginia Tech

Masters - NSF IGERT Fellow: *Economics (3.5)*

2000-08-15 TILL 2004-05-15

Virginia Tech

Bachelors: *Economics & Business Information Technology (3.7)*

AWARDS

OUTSTANDING SENIOR IN ECONOMICS – CLASS OF 2004
2004-05-15

Virginia Tech Economics Dept.

SKILLS

Programming Languages: Ruby, Python, Javascript/NodeJS, HTML/CSS, Java, Bash/Shell, C#, Clojure, Scala, Go, Perl

Software Tools/Services: Amazon Web Services, Google Cloud Platform, Git, Mercurial, SVN, CVS, PostgreSQL, MySQL, SQL Server, Oracle, Redshift, ElasticSearch, Redis, MongoDB, Ansible, Docker, Chef, Capistrano, Fabric, Kinesis, Serverless, Travis, Jenkins, Vagrant, Websockets, Socket.IO, PubNub

Frameworks/Libraries: EmberJS, AngularJS, ReactJS/Redux, BackboneJS, Ruby on Rails, Django, Spring MVC, Play, Flask, Sinatra, ExpressJS, ActiveRecord, Mongoose/Mongoid, SQLAlchemy, Hibernate, Entity Framework, RSpec, Cucumber, QUnit, Mocha, Jasmine, Jest

PROFILES

Github   LinkedIn   StackOverflow

INTERESTS

Cloud Services

Emerging technologies

Data Analysis and Machine Learning

Design Patterns

Service Oriented Architecture

Financial Services and Investing