

# Adam Ferguson

Senior Software Engineer

## CONTACT

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## LOCATION

Region Charlotte, NC

## WORK EXPERIENCE

2020-07-01 TILL TODAY

### Senior Software Engineer at [Delta Bravo](#):

Delta Bravo is a startup delivering Machine Learning solutions for clients in manufacturing.

- Creation of ML Models using Pandas, Scikit-Learn, and XGBoost 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, Terraform Modules 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 and Services based Application Development for Online Banking

- 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.](#):

Invue Security is a small company focused on providing hardware and software based security solutions for retailers.

- 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:**

Consulted with Mood Media to provide systems integration, ETL 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.
2007-04-16 TILL 2008-03-10	<b>Business Systems Analyst at SNL Financial:</b> <ul style="list-style-type: none"> <li>Maintained and acted as content expert for Institutional Ownership, Insider Trading and Short Interest datasets within the company.</li> <li>Drafted technical specifications for converting manual collection and entry of credit ratings from three major credit rating agencies (S&amp;P, Moody's, and Fitch) to automated process including specifications for software used for feed maintenance.</li> <li>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.</li> </ul>
2004-06-01 TILL 2006-06-01	<b>IGERT Fellow at National Science Foundation:</b> <ul style="list-style-type: none"> <li>Led and assisted in various research projects interested in examining economic aspects of the emerging wireless technology cognitive radio.</li> <li>Conducted regression analysis on data collected in Economics Experiments in STATA. Results included in journal publications.</li> </ul>
2002-05-15 TILL 2006-06-01	<b>Programmer/Lab Assistant at Economics Dept. at Virginia Tech:</b> <ul style="list-style-type: none"> <li>Development, analysis, and refinement of a system that used Palm Pilots as clients and a central server to simulate market scenarios in Economics classes.</li> <li>Programming in C# and data collection and analysis.</li> </ul>
2001-05-15 TILL 2003-08-15	<b>Research Assistant at Virginia Tech Transportation Institute:</b> <ul style="list-style-type: none"> <li>Extract and analyze relevant data from transportation focused human factors studies using Excel, VB.NET, and SQL Server.</li> </ul>
EDUCATION	
2004-05-15 TILL 2006-05-15	<b>Virginia Tech</b> <ul style="list-style-type: none"> <li>Masters - NSF IGERT Fellow: <i>Economics (3.5)</i></li> </ul>
2000-08-15 TILL 2004-05-15	<b>Virginia Tech</b> <ul style="list-style-type: none"> <li>Bachelors: <i>Economics &amp; Business Information Technology (3.7)</i></li> </ul>
AWARDS	
OUTSTANDING SENIOR IN ECONOMICS - CLASS OF 2004 2004-05-15	<b>Virginia Tech Economics Dept.</b>
SKILLS	<p><b>Programming Languages:</b> Ruby, Python, Javascript/NodeJS, HTML/CSS, Java, Bash/Shell, C#, Clojure, Scala, Go, Perl</p> <p><b>Software Tools/Services:</b> 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</p> <p><b>Frameworks/Libraries:</b> 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</p>
PROFILES	<a href="#">Github</a> <a href="#">LinkedIn</a> <a href="#">StackOverflow</a>
INTERESTS	<b>Cloud Services</b> <b>Emerging technologies</b>

Data Analysis and Machine Learning

Design Patterns

Service Oriented Architecture

Financial Services and Investing