Alex Buchanan
Software Engineer

I have a variety of experience – backend, frontend, and data analysis. Most recently, as lead engineer and architect, I worked on large scale distributed systems, including high throughput streaming data pipelines with an emphasis on reliability, as well as typical public API-driven systems. I'm also capable of frontend work, data analysis, and product management.

New Relic

Lead Software Engineer, Architect
2019 - 2024

- High throughput streaming data pipelines
  - Millions of messages per minute.
  - Mostly Kafka.
  - High reliability.
- Public APIs and backend systems.
  - Postgres, GraphQL, Java, Kotlin, Go, SQS.
  - Some Cassandra, Elasticsearch, and Redis.
  - Includes devops of all of the above.

I spent most of my time here working on the Alerts product – given telemetry data, set up a condition that alerts you, e.g. "alert me when any server in my cluster has less than 10% free memory for more than 10 minutes".

Alerting at New Relic involves maintaining a stateful, streaming data pipeline for many thousands of customers, many millions of data points per minute. And, since these alerts are critical to customers, building a highly reliable system was almost always the number one goal.

Some notable projects:
- Consolidated 5+ alert evaluation pipelines (a decade worth of tech debt) into one, with no customer involvement and (almost) zero impact.
- Moved the entire company from on-premise data centers to a multi-cloud deployment – mainly AWS, but also Azure and GCP.
- Introduced Kotlin (which was very well received).

OHSU Computational Biology

Research Software Engineer
2016 - 2018

- Workflow tools
  - Built a distributed task management system, written in Go.
  - Contributed to an in-house graph database, written in Go.
  - Helped manage and run data analysis workflow tools.
- Data analysis

I worked on a wide variety of cancer research projects doing data analysis, as well as trying to build better infrastructure for data analysis pipelines and workflows.

Mostly Python and Go. Experience with biology and statistics too.

Findly. Nintex.

2014. 2016.

While traveling abroad in New Zealand and Australia, I worked as a contractor at Findly and Nintex. In these roles, I worked on building new frontend UIs and components in React, Angular, and jQuery.

BPP Lab @ Oregon State University

2011 - 2014

My passion for biology led me back to school where I worked in a Botany and Plant Pathology lab, applying my software skills to analysis of bioinformatics and genome sequencing data.

I also worked with a cancer research lab.

I helped author a few publications, they're listed on my website (eabuc.com/resume/).

Mozilla

Software Engineer
2007 - 2010

- Primary dev for mozilla.com (aka firefox.com)
  - Lots of PHP.
  - One of the most visited websites on the internet (at the time), serving Firefox downloads.
  - Localized to dozens of languages.
- Primary dev for spreadfirefox.com
  - Drupal and PHP

Notable projects:
- Major redesign of mozilla.com
- Release of Firefox 4 and Firefox Mobile.

Open Source Lab @ Oregon State University

2006 - 2007

My first professional job, as a student, mostly writing PHP and working with Drupal. This sparked my love of open source, linux, vim, and set me on a direction that has defined my career.

Computer Science @ Oregon State University

2003 - 2007

Also studied Electrical Engineering, Business, Spanish, Biology but completed no degrees.