Kevin Corcoran

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Experience

New Relic

Architect and Lead Software Engineer   *April 2021 - Present*

In my current role at New Relic, I am the architect for our edge-tier data ingest and routing systems. These systems handle over 100 million HTTP requests per minute and routinely exceed their 99.96% availability target. My specific projects and responsibilities have included the following:

- Managing a team of consultants which built a green-field system based on requirements I provided. I served as "product owner" for the engagement and gave them feedback at regular cadences on both technical and logistical issues.
- Meeting with customers about their challenges using our data platform. This has required understanding the architecture of their internal systems, and the unique ways in which they stress ours.
- Meeting with our cloud providers regularly to discuss challenges with their platforms and to collaborate on joint partnership opportunities, such as new products or integrations.
- Collaborating with other architects to ensure that cross-team projects are executed smoothly.
- Supporting multiple (2 to 4) engineering teams on a daily basis, and a big part of that work is ensuring that reliability and re-architecture work for teams is planned and prioritized.

Lead Software Engineer   *May 2019 - April 2021*

Prior to becoming an architect, I served as team lead for two teams working on real-time streaming systems. A big part of this role involved guiding the teams through a multi-year cloud-migration effort, including adoption of Kubernetes and AWS. The team's domain comprised roughly a dozen microservices which were written in Java, heavily utilizing Kafka, and (prior to the Kubernetes adoption) deployed/orchestrated with SystemD and Ansible. Like my previous roles at New Relic, this included 24/7 on-call responsibilities. Some of the most notable deliverables completed by the team during this time include:

- A green-field project using Cloudflare Workers to build a new routing layer that fronts New Relic's multi-cluster cloud architecture
- Addition of several user-facing HTTP APIs for new products and features
- Growth to 10 engineers and eventual separation into two separate teams: Ingest and Traffic Routing

Senior Software Engineer   *September 2017 - May 2019*

As an engineer on the Ingest team, I worked on Java development and operation of high-throughput microservices. Notable projects included design and implementation of a system to integrate new sources of authentication and authorization, and a distributed rate limiting system using ZooKeeper and Kafka.

Software Engineer   *May 2017 - September 2017*

As an engineer on the Metrics Pipeline team, I worked on some pretty gnarly scaling, operational, and tooling challenges for a set of Cassandra clusters, including making decisions about how best to allocate millions of dollars worth of physical compute and storage resources.

Puppet

Senior Software Engineer   *October 2015 - April 2017*

I led a team of developers that designed, shipped and maintained File Sync, a foundational piece of Puppet Enterprises's code management functionality, which is still in use as of 2021.

Software Engineer   *October 2013 - October 2015*

My first assignment at Puppet was to help design and build the open-source [Trapperkeeper](#) Clojure application framework. With that framework in hand, we then mplemented the next-generation Puppet master by porting a legacy Ruby application into a hybrid Clojure, Java, and JRuby application. A notable piece of work was the reimplementation of the Puppet master's Certificate Authority using BouncyCastle. I presented about this work at [FOSDEM](#) and [ConfigMangementCamp](#) in 2015.

Janrain

Software Engineer   *March 2012 - September 2013*

My first role at Janrain was on the Engage team, and primarily involved porting a legacy Ruby on Rails application to Scala and Scalatra. I also developed a number of integrations with 3rd-party systems (namely Salesforce) in Groovy. Finally, I worked on a next-generation application framework in Scala and Akka.

Thetus

Software Developer   *June 2009 - December 2011*

At Thetus, I was a Java developer focusing on semantic web technologies. My most interesting and rewarding project was the implementation of an ANTLR-based parser which translated SPARQL queries into Thetus's internal query language.

Education

Master of Science, Computer Science - University of Oregon, 2009
Bachelor of Science, *summa cum laude*, with honors, Computer Science - University of Missouri, 2007

National Science Foundation REU programs
- *Harvey Mudd College, 2006.* I was part of a team that developed algorithms for message-routing problems in optical networks. Our results were published in "Approximation Algorithms for Traffic Grooming in WDM Rings".
- *University of North Carolina - Greensboro, 2005.* I implemented an interactive visualization in Java3D for a research program on combinatorics, and my team's work was published in "Fine and Wilf's Result on Partial Words and Consequences".