Muness Castle

Director, Data Science – Admin & Mobile Core Product, Developer Platform and Production Engineering | Shopify, Remote | 09/2021 - Present

At different points in time, I've tackled multiple, overlapping data groups within Shopify.

Within the Admin & Mobile Core Product area:

- Supplemented existing metrics that focused on small, first-time merchants with those that explained the impact product and growth initiatives had to medium and large merchants. This addressed a long-standing requirement by the board to better explain the impact of our back office and mobile initiatives.
- Shifted our development roadmap on *Shopify Mobile* away from low-bang-for-the-buck mobile-only use cases to companion usage based on data insights and narratives.
- Improved Home feed, Merchant Guides and Alerts feeds engagement by identifying low engagement and low success and collaborating with owning teams to improve or remove them. Alerts for example saw an increase in engagement from 10% to 24% within Q1 2023.

Within the Developer Platform:

- Overhauled KPIs for the platform to emphasize PII exposure, performance impact and compliance with app development guidelines allowing us to establish the *Built for Shopify* program, improving app quality for merchants and rewarding developers who updated their apps.
- By processing performance logs that had been challenging to model well, identified opportunities for app performance improvement in specific REST endpoints and GraphQL fields.
- Delivered self-service insights tooling for understanding developer funnels by allowing users to pick pairs of birth/end points of funnel stages with survival analysis in lieu of hardcoded funnel analysis. This improved understanding blockers for different segments of developers and led to roadmap changes to address them.
- Encouraged increased *Shopify Functions* and *Shopify Flow* focus by quantifying the number of unique use merchant use cases offered by apps.

Within Production Engineering:

- Improved forecasts from being ad hoc, and generic to automated, and per resource type involved. This lowered target budgets and improved negotiations with GCP.
- Ingested and mapped GCP spend, per resource to services and teams. This allows us to discover spend changes per area and mitigate them quickly.
- Rebalanced merchant/database assignment lowering error rates and reducing costs.
- Overhauled Storefront performance measurement metrics, ETL and instrumentation allowing us to measure the impact of changes and recommend focus on different parts of the architecture. For example, instead of a focus on increasing the number of regions at increased complexity and recurring cost we emphasized that slow render times were a bigger issue.

Director, Data Platform and Production Engineering | Zapier, Remote | 11/2019 – 09/2021

Collaborated with Data Insights to scale the data organization through cross-functional, domain focused Insights pods. Insights pods deliver a Data Mesh approach to delivering data warehouse models and strategic insights and recommendations. Our shared teams collaborate with departments to develop strategies and goals informed by data-derived insights and experiments. These units covered Customer Support, the Zapier Workflow product, Marketing, Partnerships, Engineering and Growth and Revenue and Engineering Operations.

Simultaneously, I grew a centralized data platform department. This department includes teams that offer ingest, storage and compute infrastructure, provide centralized data assets for user and financials, data governance, recommender systems and experimentation tooling.

We enabled dozens of simultaneous experiments to tens of thousands of Zapier users through our website, application and email platforms, and provide a framework to ingest data from SaaS applications, often just with configuration or custom Python code, ingesting data from dozens third party system, 10 databases, and hundreds of millions of events daily. A recent workflow recommender increased Open-to-Clickthrough rate by 1.7x, and our forecast model is used to predict ARR subscription and metered billing at Zapier.

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In my role as Director of Production Engineering I executed on our vision of "you build it, you run it". We are delivering on this through empowerment and partnership. We empowered teams by helping them split their services into separate AWS accounts, providing documentation and training materials, and observe and meet Service Level Objectives (SLOs). We partnered with teams by embedding SREs, collaborating with them on identifying hosted solutions that allow us to scale faster and with higher reliability, providing infrastructure design reviews and helping them develop runbooks and incident response processes and incident escalation back up.

The two departments I managed included eight engineering managers, two agile practitioners, a product manager, and 40 individual contributors including data engineers, data scientists, data analysts, SREs and backend engineers.

Data lead | Zapier, Remote | 3/2017 – 11/2019

I grew the data organization from 2 data scientists to a cross-functional team of 20 data engineers, warehouse engineers, data scientists and data analysts. Under that functional structure we support all product and operations teams to ensure that they have the data they need to make decisions based on qualitative insights.

During my tenure we built out a data warehouse and BI platform that facilitates self-service of product, marketing, revenue and financial analysis. Reports we facilitate include funnel analysis, conversion rates, daily financial metrics including ARR per account, recognized revenue to name a few high visibility ones. Aside from the data warehouse we built out a data lake with relational and event data from all transactional and operational systems in-house and SaaS.

Technology/tools/methods: Agile, JIRA, Redshift, Matillion ETL, Airflow, Python, MySQL, PostgreSQL.

VP of Engineering | Eligible, Inc., Brooklyn, NY/Remote | 2/2016 – 3/2017

As the VP of Engineering, I managed a distributed team of 20 developers working on up to 8 projects at a time. I established and supervised daily scrums, and manage tasks, projects, and overall portfolio. I worked with the CEO to establish and execute roadmaps that encompass all feature development, engineering improvement and L2 engineering support. The CTO and I were the two primary architects on initiatives, ensuring that we have a common technical vision across efforts and that the execution sticks with it where possible.

I also led the data science team, taking transactional data from customers and using that to help them integrate, and produce ROI analysis with suggestions for how they can use Eligible's products. We also created revenue and transactional reporting and forecasts for CEO, CFO, and board use.

I directly project managed our SOC2 certification which we secured in under 6 months.

Technology/tools/methods: Agile, Power BI, JIRA, Confluence, Python, Pandas, Jupyter, MySQL, Ruby.

Vice President | JP Morgan Chase, Columbus, Ohio | 2/2015 – 2/2016

I was a member of a technical operations BI team. We collected meta data from tens of thousands Windows Server, Unix, mainframe and database server user account, role, per object privileges, inventory systems, and HR systems and login logs into a data warehouse. By harvesting permission data from all systems and applying heuristics to them, we were able to identify potential violations to the security of those systems.

I worked on all aspects of the development but focused on schema design and optimization to make the data more useful in our web app and reports. For example, I produced a schema for filtering and management hierarchy queries to take them from minutes sub-second and implemented the query generation to expose the data on a RESTful API. I participated in improving our modeling our data and ETL processes. An example of that was a data set that went from 100GB to .5GB and whose ETL went from 16 hours to 20 minutes.

Technology/tools: SQL Server, Java, Splunk, Pentaho ETL, Python, C#, PowerShell, Bash, ExtJS, KnockoutJS,, SCD2, T-SQL.

Independent consultant | Castle Consulting, Columbus, OH | 1/2014 – 1/2015

I worked with several clients on a variety of technical and management consulting projects.

CVR Global: a medical device startup, I coordinated scientists, software and hardware developers to build a beta of a medical device that calculates carotid stenosis non-invasively and without need for specialists.

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Intridea: I worked with the board, CEO and delivery teams to identify areas for improvement, prioritize goals, improve agile practices, and introduce sales projections and estimation processes. We created reports on historical billable utilization, put in place a system to track it and improved billable utilization from 55% to 85%.

Other clients included *i-Human* (Ruby development, automation), *Knovation Learning* (product management coaching), *Bendyworks* (mentorship on sales and operations), *Mokriya* (sales and operations, financial planning and projection) and *FirstLeads* (architecture and product development), *Select Sires* (BI) and *First* (product strategy and system architecture).

Technology/tools: Power BI, Ruby, PowerShell, Python, AWS (EC2, S3, Simple Workflow Service), Chef, MS SQL Server, SQL Server Integration Services, SQL Server Reporting Services, MATLAB, PHP, R, Star schemas, SCD2, T-SQL.

Engineering Director | LivingSocial, Washington DC/Remote | 11/2012 – 12/2013

As Director of Platform Services, I managed the technical operations, architecture, data centers and e-mail deliverability teams. A key project for us was migrating from Rackspace to a collocated Equinix facility. My contributions to this effort included project management and technical oversight over all the technical operations and data center teams' tasks as well as coordination with other engineering and business teams to execute the migration. In 6 months, we retired 90 servers, saving $5MM+/year and improving page render times by 30%.

Technology/tools/vendors: Ruby, MySQL, Chef, Java, Percona, Redis, Jira, Confluence, Power BI, Akamai CDN, Rackspace, Equinix, PowerMTA, GitHub Enterprise, OpenStack, Hadoop, Salesforce.com.

Partner | Relevance, Durham NC/Remote | 08/2007 – 11/2012

I helped grow the company from 5 collocated to 40 distributed employees and to $7.5MM in annual revenues. As a partner in the firm, I did what I could to make us better. As President of Relevance, I supported the teams to scale and improve our work and lives. As Director of Operations at Relevance, I mentored designers, developers and project managers on consulting, leadership, agile practices, and risk management.

I was also a developer, and agile coach, collaborating on business analysis, QA and code reviews.

Technology: Ruby, JavaScript, Clojure, Java, Python, RSpec, Cucumber, Git, MySQL, PostgreSQL, Ubuntu, RedHat, CentOS, Chef, Amazon AWS (especially EC2, S3, SQS, Simple Workflow Service), Ruby on Rails, VSphere, Adobe Media Server, RabbitMQ.

Senior Consultant | ThoughtWorks, Chicago IL/Remote | 06/2006 – 08/2007

Project: OVE.com, Atlanta, GA, auction system architect: Provided technical leadership to 14 developers on a Rails auction site used by dealers nationwide.

Project: Vonage, Holmdel, NJ, web-based customer-facing sign-up system, team lead: Led a team of 16 in the development of Vonage's sign-up site using Rails and SOAP integrations.

Project: Bank of America, New York City, NY, agile enablement, technical coach: Coached the team on agile engineering practices. Helped with migration from VSS to Perforce and to Maven.

Technology/tools: Ruby, Rails, JavaScript, RSpec, Selenium, PostgreSQL, DB2, MySQL Subversion, Eclipse, JIRA.

Independent consultant | Chemical Abstract Services, Columbus, OH | 06/2005 –06/2006

Enhanced and maintained an EJB/Swing/CLI application used by chemists for entering/modifying reaction-level information associated with chemical documents. I also developed build systems, put CI in place, testing through FitNesse and built ETL tools for synchronizing data across multiple systems.

Adjunct faculty | Franklin University, Columbus, OH | 09/2005 –06/2006

I taught undergraduate courses on software development and network programming. Topics included debugging, testing, agile practices such as TDD and refactoring, object-oriented programming, multithreading, introspection, HTTP, REST, web services programming, and network layout and design.

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Senior developer | MindLeaders, Columbus, OH | 06/2004 –06/2005

Designed, implemented and re-factored parts of a new web learning management system including course delivery, system privilege customization and an event triggered mechanism for automated system tasks.

Drove adoption of agile practices. Led migration from SourceSafe to Subversion and WebLogic to JBoss, repeatable builds, and automated rolling deployment.

Consultant | Leach Consulting Services, Columbus, OH | 02/1997 –08/2003

Projects with Vizzavi, The Ohio State University, Nationwide Financial Services, CompuServe France and Lingerie.com. My responsibilities included programming, system administration and architecture.

Education

Master of Science in Computer Science | 2004 | Franklin University, Columbus, OH

Bachelor of Science in Computer Science | 1997 | Franklin University, Columbus, OH