

SUMMARY OF QUALIFICATIONS

Experienced in design, development, and deployment of large-scale distributed cloud-based systems. A quick summary of skills includes:

- **Backend** design, implementation, and deployment of **distributed services** in **Java**, **Scala** and **Python**. Working knowledge of frontend technologies like **React** and **Angular**, but my focus is currently in the backend.
- **Devops/infrastructure management** with Kubernetes using **ArgoCD** and **Kustomization**.
- Proficient in the scripting languages **Bash**, **Powershell**, and **Python**.
- Proficient in a wide range of **AWS** product offerings.

PROFESSIONAL EXPERIENCE

Senior Staff Software Engineer, Turo

Mountain View, California – November 2018 to May 2022.

Worked on several initiatives in the Core Services division of Turo's backend engineering:

- Led the AuthN modernization initiative by replacing the legacy bespoke auth stack with standardized OAuth2 using the WSO2 Identity Server open source server.
- Led an AuthZ initiative to use a ReBAC-based system called SpiceDB for a performance-critical feature that requires sub-10 millisecond lookups for multiple assets owned by multiple users.
- Worked on decomposing the legacy Java monolith into separate domain-specific kotlin services. This included not only executing the work but also defining and documenting the practice to empower other engineering teams to perform the task.
- Worked extensively to improve observability across multiple services in the backend stack.

Staff Software Engineer, Twilio

San Francisco, California – November 2018 to May 2022.

Worked on the Messaging Channels team as one of the core engineers building the *WhatsApp for Business* product offering, from proof-of-concept to general availability. Contributions include:

- Planned, designed, and implemented a Message Templating system for spam control that allows for businesses to submit message bodies for pre-approval before initiating conversations with customers.
- Designed and implemented the backend system that coordinates provisioning computing resources to host and subsequently register Whatsapp numbers. Twilio was the first in the market to automate this process, enabling customers to onboard new customers within minutes instead of the several days/weeks required by the competition.
- Designed and implemented an internal tool that became the one-stop-shop for managing the operational aspects of the product, such as managing profiles, quality rating, security and template approval.
- Worked on steady-state hardening of the Kubernetes-based infrastructure that runs the container-based WhatsApp deployments.
- Implemented metrics and dashboards that improved observability and on-call engagement in near real time.
- Languages used for backend dev: Scala, Java, and Python. Kubernetes based infrastructure.

Software Engineer, Microsoft Corporation

Mountain View, California – October 2015 to August 2018.

Worked on the PowerPoint team with multiple responsibilities. Contributions include:

- Worked on the backend engineering feature crew that implemented a continuous integration system using a custom-made large-scale hybrid Cloud/OnPrem infrastructure to build, validate, package and ship various versions of PowerPoint (Win32, mobile and android).

- Worked on the feature crew that shipped Slideshow Narration Recording as a built-in product feature, previously only available through the Office Mix plugin.
- Worked on the feature crew that shipped several accessibility features throughout the product.

Software Engineer, ZTR Control Systems

London, Ontario – September 2014 to September 2015.

Worked with a team of 8 engineers to design and implement a multi-tenant, cloud-based data ingestion and reporting system for IoT based vehicle fleet telemetry data. The system was implemented in three parts:

- A back-end data ingestion system for receiving telemetry data from fleets of vehicles from hundreds of ZTR customers. The system scaled to process over 20 million incoming data points per day. Written in **C#** for both data ingestion and processing, used **Redis** as a message queue, **Cassandra** for short term storage (inflight) and **PostgreSQL** for long term storage after data aggregation (postflight).
- A **Rest API** for access to customer data. This API was designed with multi-tenancy at its core, allowing customers to access their data securely using a custom-built Service Token System.
- The front-end was an **AngularJS** based **ASP.NET** reporting application that provided near-real time reports on customer vehicle fleets.

Research Assistant, CSTAR (Canadian Surgical Technologies & Advanced Robotics)

London, Ontario – August 2013 to September 2014.

- Development of tools for the **DaVinci** surgical robot, used in minimally invasive arthroscopy surgery.
- Designed and implemented the application that performs data acquisition across multiple sensors and presents the results in a **QT** based **graphical interface**. This application is used by most grad students in the lab and makes it easier for less programming-savvy researchers to write software faster by re-using pre-baked modules in their implementations.
- Wrote **custom API** wrappers to abstract complex logic from sensor and actuator APIs into easier to use interfaces that meet the stringent CSTAR standards.

Software Development Engineer, IBM

Hortolandia, Sao Paulo — July 2007 to December 2012.

- Worked on the AT&T account as lead developer for an application that aggregates customer billing data from dozens of other applications that are part of the *AT&T Universal Billing Platform*. This application provides AT&T employees with a single point of control to modify/transform and ship billing data to downstream consumers. I was also part of the team that migrated a platform called *Service Assembly* from older technologies into the **Microsoft .NET framework** software stack.
- Worked on the Sotheby's Realty account as lead engineer/developer of their main **website** and internal **content management system**. In this project, I was also the tech lead for a team of 6 practitioners located in both **Brazil and India**, coordinating the work between teams and reporting to the customer in **New Jersey**.
- At the Itaú account I was part of the development team that created a process workflow application used by that banking institution to control order requests from their clients.

EDUCATION

UWO – University of Western Ontario

Master of Engineering in Software Engineering.

UNIRP – Centro Universitario de Rio Preto

Bachelor Degree in Computer Science.