# Avritt Rohwer

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## Experience

### Software Engineer, Google Kubernetes Engine
*September 2019 - current*

- Led the GKE engagement successfully landing a key customer evaluating TPUs and GCP. Regularly met to understand needs and advise on how to best utilize GKE and Kubernetes. Provided guidance on how to integrate GKE node auto-provisioning and Kueue, enabling researchers to rapidly experiment with different TPU slice topologies during the proof-of-concept evaluation phase. Worked with GKE scalability and networking teams to ensure the customer had a successful scale-up to tens of thousands of nodes after the proof-of-concept phase.
- Guided customers on how to use Kueue, JobSet, and LeaderWorkerSet to orchestrate AI/ML training and inference jobs on GKE. Used customer feedback to improve docs (1, 2, 3), add observability, and inform feature requests addressing missing functionality (1, 2).
- Collaborated with the Pathways on Cloud team to ensure successful launch at Cloud Next. Designed usage of JobSet to deploy a Pathways Cluster. Wrote a user guide on how to deploy and connect to an interactive Pathways deployment.
- Designed and implemented a Kubernetes Control Plane VM bootstrap success rate SLI and SLO. Designed and implemented logs observability pipeline and fleet analytics tooling. Utilized tooling to identify 15 unique failure modes, 6 of which were proactively caught via SLO alerts. Implemented or delegated mitigations as appropriate, achieving consistent per-minor-version, per-location 99.9% success rate.
- Designed and implemented SLIs and SLOs for the service enabling GKE DNS-based endpoints. Investigated error events, fixed bugs and increased system observability to eliminate sources of false positives.
- Wrote an oncall ticket responder (Cluster Clippy) that provides useful debugging context, reducing alert median-time-to-resolution by 18 hours. Wrote a design to make the responder extendable by other teams. Another team implemented the design and reduced their customer issue mean-time-to-resolution by 5 days.
- Collaborated with customer support organization to reduce toil. Proposed a streamlined customer outreach process which saved 100+ extraneous tickets from being created within a year of using the new process. Wrote playbooks and adjusted permission policies enabling support engineers to run common mitigation commands.
- Wrote and maintained a fleet analysis Colab (Jupyter notebook) template. Utilized tooling to identify impact of 8 production issues. Facilitated and led 3 team training sessions on data analysis.
- Wrote and submitted an internship proposal to make Konnectivity Network Proxy support a dynamic number of proxy servers. Interviewed and selected internship candidates. Supported and supervised the hired candidate who successfully delivered the functionality, removing a blocker to adding or removing GKE Kubernetes Control Plane VM replicas without having to recreate all other Control Plane VMs in the cluster.

### Software Engineer, Google.org Fellow on CiviForm
*September 2022 - March 2023*

- Led enhancements to the CiviForm cloud deployment tool. Wrote a 6 month roadmap and delivery plan.
- Helped ensure a successful launch in the state of Arkansas. Collaborated with state IT administrators to fix deployment issues and ensure CiviForm integrated into their infrastructure.
- Designed and implemented documentation generation for all environment variables the CiviForm server reads from. Integrated into developer workflows via a GitHub action.
- Designed and implemented end-to-end testing of the cloud deployment tool.
- Designed and implemented the pgadmin command allowing for temporary database access via a web UI.

### IS Intern, Warner Norcross + Judd LLP
*May 2018 - January 2019*

- Designed and implemented a sales-lead management application. Leads were tracked per-user with rollup views available to management. Wrote a React frontend and a .NET Core backend deployed on Microsoft IIS. Designed a database schema deployed in Microsoft SQL Server. Implemented customer contact import functionality from Outlook and a legacy CRM SOAP API.

### Helpdesk Intern, REMC 1
*September 2016 - December 2017*

- Provided technical help-desk services by phone, email, online chat, and on-site to dozens of school districts.
- Packaged and deployed software to thousands of computers.

## Education

### BS, Computer Science; minor, Mathematical Sciences
*Michigan Technological University. September 2016 - May 2019*

- Awarded a Certificate of Merit for Outstanding Academic Achievement in Introduction to Coding Theory.