

# Ryan Ho

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## WORK EXPERIENCE

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### Software Engineer, IntelliBridge (formerly Revacomm), McLean, VA (Remote)

April - October 2024

- Engineer in the Pipeline Team for the Center of Medicare & Medicaid Services developing pipeline focused software using Go, Gitlab, Github Actions, Jenkins, Docker, Kubernetes, to perform CI/CD.
- Develop Jenkins pipelines for multitude of application using Kubernetes pod agents within Linux ARM64 nodes.
- Create features for Jenkins pipeline templates for Continuous Integration/Continuous Deployment pipeline stages, Static Application Security Testing(SAST), Delivery and Deployment used in 40+ application pipelines.
- Stand up, test and manage 15+ Maven, Python, Docker CI/CD pipelines creating stages for language specific test/listing, SonarQube and Snyk SAST analysis, delivery to Jfrog Artifactory, and deployment to enterprise private Github repositories.
- Develop a parameterized pipeline template to use Snyk Test to scan dependencies statically for applications.
- Integrate the reporting of the SAST stage to Snyk and SonarQube Dashboard for application teams to see their vulnerabilities in a modular and customizable view.
- Mentor other engineers on the use of Jenkins, Jenkins pipeline templates, SonarQube, Snyk, and Github integration to create end to end CI/CD pipelines.
- Document integrating SonarQube and Snyk Dashboard, creating and implementing Snyk service accounts credentials, Configuring Quality Gates for SonarQube, the usage and addition to Jenkins pipeline templates.

### Software Engineering Intern, Revacomm, Honolulu, HI

April 2023 - March 2024

- Plan, develop and deploy a static server-less web application, reducing client costs by 80%, to query and generate statistics on client emails via API Gateway, AWS Athena, AWS Lambda, AWS S3 and ReactJS.
- Executed an ETL process by extracting data from Amazon SES, stripping metadata, appending it to a JSON file in S3, querying via AWS Athena, and serving the data to the frontend through Amazon API Gateway.
- Develop security using via whitelists within S3 bucket policies, Cloudfront and AWS WAF and Shield to prevent XSS.
- [cpb.bank](#): developed the HTTP Pipeline, specifically the Content Security Policy, dynamically rendered in ASP .NET Architecture to prevent Cross Site Scripting.
- Developed 15+ template pages, components for the homepage via C# in Umbraco CMS for customer use.
- [www.boardofwatersupply.com](http://www.boardofwatersupply.com): developed a static server-less microsite for the Procurement Portal and security.
- Developed server-less RESTful API, via AWS Lambda, API Gateway and Cognito, for login and subscription functionality employing cookies, local/session storage, JWT Tokens, ReactJS and JQuery.
- Develop S3 bucket policies and whitelist web traffic access and add security with a firewall via AWS WAF to prevent XSS.
- Reduced yearly costs from \$2400 to \$0 dollars by planning and implementing Typesense Search Engine.
- <https://pscportal.boardofwatersupply.com>: develop unsubmit, edit user and compress user data functionality and corresponding UI in Microservice architecture, via Typescript, ReactJS, ExpressJS, NATS and MongoDB.

- Reduced hours spent by 15% to automate zipping pdfs to S3 via cron jobs scheduled by deadlines and category.
- Executed an ETL process by extracting PDF file data from MongoDB, transforming it by grouping files by deadline and category, zipping file structures based on paths, and loading them into S3. Delivered the data on-demand to the frontend via API Gateway.

### Software Engineering Intern, Traffic Technology Services, Beaverton, OR

April 2022 - May 2023

- Partnered with Toyota Motor Engineering on a pilot project to optimize intersections in Colorado and study Toyota Powertrain.
- Coauthor of *A High-Low Fidelity Dual Traffic Modeling Approach to Support Traffic-Aware Powertrain Automation Application Development*.
- Executed an ETL process by extracting traffic light intersection data from a SQLite database, transforming and compressing 80-90% of the rows for efficient streaming, and loading it into a C# controller program to simulate real data in Vissim, a traffic simulator.
- Partnered with Department of Energy(ARPA-E) analyzing intersections in Portland Washington County and Detroit.
- Executed an ETL process by extracting real time traffic light data of multiple intersections per second over 24 hours using a Python multiprocessing script, parsing JSON data and appended to CSV files for analysis in Excel.

### SKILLS

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**Languages:** C, C++, C#, SQL, Python, Java, Javascript, Typescript, HTML, CSS, Bash Scripting, Go, Groovy

**Security:** SonarQube, Snyk, XSS, JWT, SSH, API Tokens, Cookies, CSP

**Cloud Infrastructure and SDKs:** Boto3, AWS Lambda, Amazon S3, Amazon API Gateway, Amazon Athena, AWS CloudFront, AWS Secrets, AWS WAF and Shield, Amazon Cognito

**Containerization:** Docker, DockerHub, Kubernetes, Skaffold, Github Container Registry, Artifactory

**DevOps:** Jenkins, Jfrog, Github Actions, Gitlab Pipelines

**Web Development Frontend:** RESTful APIs, NodeJS, Bootstrap, ReactJS, JAMstack, JQuery, Axios, Umbraco, CraftCMS

**Web Development Backend:** ExpressJS, Mongoose ODM, MongoDB, GraphQL, Gatsby

**Version Control:** Git, Gitlab, Github

**Package Management:** NPM, Pip

**Project Management:** Jira, Confluence, Microsoft Teams, Google Meets, Slack

### CERTIFICATIONS

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Certified Kubernetes Application Developer (CKAD)

Linux Foundation, 2024 - 2026

### EDUCATION

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Oregon State University

Corvallis, OR

Applied Computer Science, focus in Data Science

Magna Cum Laude, 2023

### PROJECTS

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**InterConnect, LLC.**

2024 - Present

- Engineer in a start-up for a social media application being developed within React Native and Typescript.
- Develop screens within Mobile architecture using Async Storage to reduce database start up costs by holding nonsensitive array data.
- Manage screens with React / React Relay / React Navigation hooks, useState, useEffect, useRef, useNavigation, useLazyLoadQuery, useMutation.
- Optimize type-graphQL schemas through inheritance and polymorphism to leverage fewer and more powerful GraphQL queries, reducing bloated schemas and latency in recall performance within the React Relay environment.
- Have biweekly sprint meetings about directions and next steps. Use Jira to track ticket and sprint progress.
- Develop tests for code coverage and CI/CD pipeline, exporting the application on deployment as an Expo build.

**Sandbox**

2024 - Present

- <https://rhoyo.github.io>: my development sandbox and personal page written in Typescript, with React components, produced statically by Gatsby framework, and hosted on Github Pages.
- My personal website is under construction to host personal information about myself, to experiment with various topics I use in work or I am personally interested in.
- Currently investigating Three.js, the interactions of static sites, Gatsby SSG, and various Github Actions within my current Github Workflow to perform CI/CD.

**Web-based Intersection Traffic Intelligence Report (OSU Capstone Project)**

2021 - 2022

- Develop a web application to create dashboards with visualizations, analyzing traffic queue data sponsored by Traffic Technology Services.
- Use Docker to containerize the application, Numpy, Dash, Plotly Express, Bootstrap, to visualize and interpret data.