

Alex Poulos (PhD)

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SKILLS

I am a seasoned cloud developer with **5 years** of experience in multiple backend languages (**Java/Spring, TypeScript/Node.js, Rust, Go, Ruby**) and frontend frameworks (**React, Vue, and Angular**). I have worked with an array of different databases (**DynamoDB, Mongo, and Oracle**) and have deep knowledge of core **AWS** services including infrastructure as code with **CloudFormation** and **Terraform**. I love tackling complex problems that span the entire tech stack. I excel at **mentoring** other developers and communicating with both technical and non-technical audiences.

RECENT EXPERIENCE

The Washington Post (Arc XP), Washington DC

March 2021 - PRESENT (Full-Time): **Senior Full Stack Engineer - Arc Video Center**

- Designed and implemented a cost-effective metrics ingestion service capable of aggregating and storing billions of events per month. This will provide a rich set of observability data for both internal analytics and customer use (**Typescript, Lambda, AWS TimeStream, SNS/SQS, DynamoDB**).
- Designed and implemented an approach for provisioning per-customer AWS resources with **AWS CloudFormation, CodePipeline, Deno**.
- Modernized the docker containers and build-pipelines for our 4 microservices. Build times dropped from **45** minutes to **5-10** minutes and our security posture improved. (**Jenkins, Docker, Tomcat**)
- Worked across teams to solve problems in the right part of the stack, even when the “right part” was managed by a different team.
 - Contributed to company-wide **CloudFormation** templates to enable secure insertion of secrets into our **ECS** services.
 - Identified a thorny upstream caching problem that caused geo-restrictions to get stuck (**Akamai, nginx**).

July 2020 - March 2021 (Full-Time): **Full Stack Engineer - Arc Video Center**

- Spearheaded a database migration of **hundreds of mongo databases** from nine self-run mongo clusters in **4 AWS regions** into the managed service **MongoDB Atlas**. This reduced DB-related ops alerts and led to six figure annual cost savings in database software licensing fees. Our team was recognized with a company-wide Engineering award.
- Participated in feature work across the stack (**Spring Boot/Java, React, AngularJS, MongoDB, Typescript**, a broad range of **AWS** Services including the Elemental Media Services).
- Served on both Video Center’s on-call rotation and our in-house SRE Mongo on-call rotation.

Crosscut – *Freelance Developer (Part-time) June 2020 – Present*

Crosscut.io is a public health startup that provides geospatial tooling to serve health campaign planners in mid-to-low income countries.

May 2020 – PRESENT (Part-Time)

- Ported a geospatial graph-traversal algorithm from **Node.js** to **Rust**. This produced a **30x speed increase**, which reduced user wait times from about **5 minutes** to **10s** for a planning map to be generated.
- Wrote a CLI in **golang** that computed which polygons should be merged at various zoom levels so that planning maps would load performantly. (**Golang, AWS ECS, Mapbox Tiling Service**)
- Participated in feature development across the full extent of the stack (**Vue, Node.js, Rust, Go, R, Docker, AWS Lambda, CloudFormation**).

University of Maryland, College Park, MD – *IT Software Engineer*

July 2019 – July 2020 (Full-Time)

- Designed and built UMD IT's first serverless web app, an internal tool used by developers to create test users across multiple internal systems of record. Self-service test users improved security and enabled developers to easily test their apps across different user profiles (**Vue, Typescript, OpenLDAP, AWS Lambda, API Gateway, S3, CloudFront**)
- Architected and executed tricky containerization and cloud migration of our deployment of Grouper, an open-source Java application for Role-Based Access (RBAC). Subsequent major version upgrades took 2 weeks instead of 2 months of engineering work. (**Docker, Bash, Oracle, AWS ECS**)
- Designed and implemented an extensible messaging extension for propagating group membership information between multiple systems using an SNS->SQS fanout approach (**Java, Node.js, AWS Lambda, SNS, SQS**)

EDUCATION

Catholic University of America – *MA & PhD (Classics)*

May 2019, Washington, DC

North Carolina State University – *BS (Comp Sci) – Valedictorian*

May 2012, Raleigh, NC

AWARDS AND CERTIFICATIONS

AWS Solutions Architect, Associate (Dec. 2019 – Present)

Computer Science Senior Award for Achievement in the Humanities (2012)

HOBBIES

Occasional [Open Source Contributor](#) and [Blogger](#)

Ancient Greek and Latin Literature