Blog Post on My Cloud Resume Challenge:

This Cloud Resume Challenge enabled me to learn the skills needed in cloud engineering, server networking, and full-stack web development. It took me through the creation of the frontend for a website, the backend through the visitor counter API, and through the infrastructure needed to effectively automate and sync all the different parts of the challenge into one cohesive cloud resume. All of these parts have allowed me a greater understanding of cloud computing software and the services that go into something like AWS.

Frontend:

Using S3, CloudFront, and Route53, I was able to deploy a website through static website hosting, configure HTTPS and HTTP requests, and point the domains into my correct website. The main issues and thoughts I had within this step was a feeling of inadequacy, especially since it was the first piece in getting the website working. I didn't understand key elements such as HTML and DNS going into this project, but throughout the process I learned how to find new information and implement it properly so that I could get my website working. Through HTML and CSS, my resume is now deployed onto aelikim.com.

The largest issue I had was updating my resume, especially since I did not understand CloudFront at first and the need for invalidations. Throughout this project, running into issues, learning more in-depth about them, and then implementing solutions has allowed me to gain more knowledge into not just coding, but also how to use and implement cloud software. While it was the first step, I've learned that the internet is a wide place, and one of the best skills you can practice is to learn quickly and Google effectively.

Backend:

The backend seemed much easier now that I was more accustomed to working in AWS. I used DynamoDB as a database, Lambda to increment and call the visitor count value in DynamoDB, and lastly used API gateway so that my website could communicate with the visitor counter API. This portion of the project had me delving deeply into the understanding of how API's work and function, and learning more about HTTPS requests in general.

Prior to this, I would have never imagined that referencing a JavaScript file within the index.html file displayed on the website could be a trigger to call an API - I didn't even know that an API was something that existed outside of Python code. Gaining more experience with Java, creating a graphical diagram to understand how the backend communicates, and finally getting my visitor counter working were all small steps I took to learn more about AWS, and I am now confident in my ability to create and host API's through cloud software.

Infrastructure:

The last step in the creation of my cloud resume was the infrastructure as code, automation, continuous integration and continuous deployment pipeline, and testing phase. Largely, I did not understand the meaning or importance of best practice before approaching this step. Seeing firsthand how Github, Github Actions, and Terraform work to create an infrastructure as code environment where everything syncs and works effectively under the CI/CD pipeline drilled into my head the importance of best practices such as these, and also how to work effectively in terminals on my desktop.

This is the portion of the cloud resume challenge I struggled with the most due to technical skill, as approaching a terminal for the first time felt very daunting, especially since I had only worked with error logs in Python. Testing, automating, and creating the infrastructure and working on cloud softwares without the GUI is now something I feel much more confident in, and I seek to continually automate tasks through the efficiency that this project has given to me.

End of Project and Reflection:

Something that really stuck with me throughout this project is the idea of learning quickly and Googling effectively. I read this in the guidebook for the Cloud Resume Challenge, but I did not realize how much it would help me. Understanding that I knew next to nothing, but I could learn and implement solutions through finding resources, common errors, and hearing experiences of others online was a tool I feel I did not have prior to this. Persevering despite my doubts, getting really into the weeds of a difficult project and coming out the other side with a successful project, and putting my best foot forward to understand new and difficult concepts are all non-coding based skills that were strengthened throughout this entire process.

I feel that following this, I am a better coder, engineer, and student all at once. I've gained the experience of full-stack development, deployment of a website and API through cloud services, and an understanding of automation and infrastructure as code as a result of this. I'm thankful for this opportunity, and excited to keep learning and growing using resources within the cloud field.