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August 25, 2024  
CS 470 Final Reflection  
<https://youtu.be/kgv1eL9wlrE>

#### CS 470 Final Reflection

- **Experiences and Strengths:** Explain how this course will help you in reaching your professional goals.

The skills that I have learned in this course have been critical for reaching my professional goals within software development. Cloud-based solutions are increasingly becoming the standard and my increased understanding of microservices and serverless architecture will be paramount in my success. During this course, I have acquired skills within microservices and serverless architecture, cloud service integration, and API management and security.

This course gave me hands-on experience in managing and deploying various microservices, which is essential in the creation of scalable and maintainable apps. This exposure has given me the ability to build applications that scale with demand to reduce operational overhead. I also learned how to effectively integrate various cloud services which is crucial for the development of modern, distributed applications. Deep understanding of API gateway and securing APIs was a significant part of this course, and it has prepared me to handle real-world scenarios in which API management is critical.

My strengths as a software developer have increased dramatically since starting. I have become extremely adaptable, which has allowed me to quickly learn and adapt to the ever-changing technological landscape. My problem-solving skills have been honed and I excel at breaking down problems into much more manageable pieces. Finally, my communication skills

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have grown to the point that I would be comfortable collaborating with anyone, whether that be one-on-one or within a team.

The skillset that I have developed has prepared me to take on quite a few different roles. A cloud solutions architect would be a great fit as my understanding of cloud services and architecture has prepared me to design and implement cloud-based solutions. My skills in process automation and cloud infrastructure management would make me suitable for a role within DevOps, where continuous integration and deployment are key. My microservice and API management experience would also prepare me well for backend development roles since scalability and reliability are critical within the space.

- **Planning for Growth:** Synthesize the knowledge you have gathered about cloud services.

In the future, I would handle scale by leveraging the auto-scaling features of cloud platforms. This allows for microservices to scale independently based on demand. For error handling, tracing and centralized logging will be critical in quickly identifying and rectifying issues. To predict costs, I would utilize monitoring and analytics tools provided by cloud platforms to track resource usage to anticipate any future needs. Serverless architecture often offers more cost predictability for variable workload applications, as you only pay for used compute time. Containers, while highly flexible, may have higher upfront

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costs and may require more management which can make the less predictable when calculating costs.

Serverless architecture offers plenty of pros for expansion. Serverless architecture has the ability to scale without managing the underlying infrastructure. This helps reduce operational complexity. It also supports pay-for-use pricing, which can be more economical for workloads that require varying degrees of usage. However, serverless might introduce unwanted latency and cold start issues, which could be a deciding factor if low latency is mission critical. Serverless architecture may also suffer from vendor lock-in.