

Joshua Gbadebo

Mentor 1: Prof. Sajida Faiyaz- Austin

Home Institution: Voorhees University

Target Course: Computer Architecture

Target Course Number: CMP 334

Anticipated Enrollment: 15 Fall and Spring semesters

Science Gateways Resource Needs/Questions:

- *Need/Question 1: How does JetStream2 map onto computer architecture concepts.*
- *Need/Question 2: Understanding how AI has enabled modern computer architectures evolution.*
- *Need/Question 3: Which other Science Gateway AI resources can help students understand architecture in Cloud Computing*

Project Goals:

- *Goal 1: Understand the concept of Computer Architecture.*
- *Goal 2: Integrate the concept and understanding of cloud architecture as it relates to traditional computer architecture.*
- *Goal 3: Analyze how computer architecture principles support artificial intelligence workloads by examining the interaction between processors, memory systems, storage, parallel computing, and specialized AI hardware accelerators.*
- *Goal 4: Prepare students to understanding the importance of computer architecture in traditional on-prem and modern cloud computing models in IaaS, PaaS, SaaS.*

Science Gateway Goal:

My goal is to leverage Jetstream2 to provide students with cloud-based access to real CPU, GPU, memory, storage, and networking resources, allowing them to **experiment with and measure how computer architecture components affect AI workload performance.**

