# **Adham Popal**

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#### **EDUCATION**

University Major: Computer Science **George Washington University** 

Graduation Date: May 2024

- 3.94 GPA
- Applicable Coursework Completed: Data Structures & Algorithms, Comp. Architecture, Database Systems, Systems Programming, Operating Systems, Comp. Networks, Distributed Systems, Machine Learning, Data Analytics
- Skills: Java, Python, C, Golang, SQL, MongoDB, HTML+CSS, Git+Github, Docker

## **WORK EXPERIENCE**

## **Airlines Reporting Corporation**

Arlington, VA

Software Engineer Intern

June 2023-August 2023

- CI/CD Modernization: Spearheaded the migration from Jenkins to GitLab CI/CD, enhancing the delivery process for ticketing authority systems
- Scalable Backend Solutions: Implemented an API gateway and AWS Lambda, enabling dynamic updates and additions to the ticketing carriers table in DynamoDB
- Infrastructure Automation: Leveraged Terraform for end-to-end AWS infrastructure deployment for ticketing authority, emphasizing Infrastructure as Code (IaC) best practices
- Legacy Codebase Enhancement: Played a key role in modernizing software by refining and upgrading legacy Nest, is components, ensuring system robustness
- AI Integration & Presentation: Orchestrated a comprehensive capstone presentation at ARC, highlighting practical AI applications, strategic integration points, and showcasing dependable use cases

**REI Systems** Sterling, VA

Software Developer Intern

May 2022-August 2022

- Data Pipeline Development: Conceptualized and built a Real-Time Data Pipeline crucial for the evaluation of an MLpowered Search Engine.
- Agile Workflow Participation: Actively collaborated in Agile ceremonies like daily standups, sprint planning, and weekly demonstrations, fostering iterative development.
- Performance Metrics Design: Innovated metrics to evaluate Search Engine precision, culminating in data-driven insights for system refinement.
- Cloud Infrastructure Management: Orchestrated AWS MSK Cluster and CloudWatch streams, integrating foundational cloud computing principles for enhanced data flow.
- Backend Application Development: Developed Java Spring applications for real-time data transformation from AWS CloudWatch to AWS MSK and efficient data storage in S3.
- Data Extraction & Analysis: Utilized AWS Glue for intricate data extraction, performed computational analyses, and streamlined data storage into DynamoDB.

## George Washington School of Engineering and Applied Science

**Washington D.C.** 

*Undergraduate Learning Assistant (Operating Systems)* 

August 2023 – December 2023

- Student Engagement & Support: Hosted weekly office hours, offering students intricate conceptual clarifications and assisting with code reviews.
- Lab Instruction: Supervised labs, ensuring students comprehended materials and promptly addressed academic inquiries, enriching the learning experience.
- Course Management: Collaborated closely with professors on class structuring, simultaneously tracking and updating student progress metrics to facilitate efficient teaching strategies.

## **PROJECTS**

## Online Portfolio: https://adham23p.github.io/

Straggler Mitigation for Distributed Architecture (Python): Distributed ML training using PyTorch and Ring-Allreduce architecture

Debate Winner Prediction (Python): Machine learning project which achieved final 78% accuracy in prediction of the winner of APDA debates

*Microkernel Containers (C):* Implementation of containers in xv6 (microkernel operating system).

University Registration-Advising (Python+Flask, HTML+CSS, mySQL): University System that maintains student records and assigned faculty advisors