Adham Popal

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

EDUCATION

University **George Washington University**
Major: Computer Science *Graduation Date: May 2024*

- 3.95 GPA
- Applicable Coursework Completed: Data Structures & Algorithms, Database Systems, Systems Programming, Software Design for Handheld Devices, Comp. Networks, Distributed Systems, Machine Learning, Data Analytics
- Skills: Java, Python, C/C++, Kotlin, SQL, MongoDB, HTML+CSS, Git+Github

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 through the creation of multiple scripts.
- 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.js 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 ML-powered 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.
- 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 and Databases) *August 2023 – May 2024*

- Student Engagement & Support: Hosted weekly office hours with intricate concept clarifications and 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

BikeBuddy (Python, React-Native): Python and API calls to OpenData D.C. to implement customized map of D.C for bike routes. React-Native utilized for mobile application that will display the map and biking route returned.

Straggler Mitigation for Distributed Architecture (Python): Distributed ML training using PyTorch and Ring-Allreduce architecture. 29% reduction in training time with minimal change in F1 score for credit card fraud dataset.

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. Validation of graduation requirements and course registration.