Abinav Sadhneni

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Education

UNIVERSITY OF MICHIGAN, COLLEGE OF ENGINEERING | MAY 2022

· Intended B.S. Major in Computer Science
· Considering MBA or Double Major with Data Science, Computer Engineering
· GPA: 3.72/4.00
· Related coursework:
  o EECS 281: Data Structures and Algorithms (C++)
  o EECS 370: Computer Organization (C, ARM)
  o EECS 376: Foundations of CS (P-NP Problems, Encryption, Deciders)
  o EECS 481: Software Engineering (Ubuntu, Test coverage)
  o EECS 485: Web Systems (HTML, Jinja2, Python)
  o EECS 492: Intro to AI (Markov Models, NLP)
  o EECS 494: Computer Game Design & Development (Unity, C#)
  o MATH 425: Intro to Probability (Random, Poisson Distributions)
· Current coursework being taken:
  o EECS 482: Introduction to Operating Systems (OS, Concurrency)

Experience

AMAZON (SEATTLE, WA) | AWS SOFTWARE DEVELOPER INTERN | JUN - AUG 2021

· Worked on the large-scale Waste Compliance goal which allows companies to store waste dependent on specific sites, clusters, streams, and containers
· Learned multiple technologies in AWS such as Lambda, Coral Lambda Endpoint, API Gateway, DynamoDB, Cloudwatch, CDK Pipelines, etc. in a couple weeks
· Worked in large group involving 30+ high-level employees, used required coding practices, and learned how to work in huge code repositories
· Personally set up meetings and managed my project such that goals were met on time
· Wrote my own design document and went through a professional design review before implementation of the project
· Demoed project to over 150 senior engineers and wrote clear documentation for use and future modification

Projects

ONESTOP UMICH TICKET SERVICE APP | SEPT 2021 - PRESENT

· Under production, will be used by UMich students to resell tickets instead of risky transactions online
· Created using Expo React Native interface, integrates multiple libraries such as Stack Navigator and Elements to render friendly UI to user
· Uses AWS Cognito with user pools to verify that the user is a UMich student by identifying student email; comprehensive authentication workflow

- Uses AWS GraphQL API Gateway to manage ticket buyers and sellers on the market
- Final goal is to release app on iOS and Android by the end of the year (December 2021)

BACKEND API FOR AWS WASTE COMPLIANCE DATA SERVICE | JUN - AUG 2021
- Used AWS Services such as Lambda, API Gateway, DynamoDB with no prior experience
- Wrote and used a fully developed pipeline to continuously test newly deployed code
- Created comprehensive integration tests such that the framework was tested externally mocking client calls
- Worked with separate teams to integrate the API with multiple dependents; the most notable being an automated workflow creator
- Worked with multiple different languages to fully create standalone service (Java, TypeScript, JavaScript, C++, Python)

DELIVER OR DIE – UNITY (LARGE SCALE PROJECT) | NOV - DEC 2020
- Uses the Unity Game Engine with C#
- Contains high level features such as animation, NavMesh, terrain manipulation, advanced AI programming
- Encouraged planning and teamwork with high chemistry and detailed professional worklogs, including readable, labeled, and explainable code

Notable Skills

C++
- Can work at a high level with hash tables, command line arguments, C-string manipulation, maps and pairs, implementation of heaps, dynamic memory, linked lists and iterators, dynamic programming, stacks/queues

AWS
- Lambda: Can create advanced functions drawing from data and invoked from an HTTP/REST API
- API Gateway: Can create multiple endpoints utilizing Lambda functions or locally coded CLEv2
- DynamoDB: Can read/write data into the database at a high level
- Cloudwatch: Can set advanced logging systems to accurately test and access an API/Lambda function
- Cognito: Can manage user identity pools and authentication

OTHER
- Python: Can work at a high level with multiple libraries in large projects and code repositories
- JavaScript: Can design high level client-based websites with HTML Templates using Flask
- Expo React Native: Can use JavaScript to write comprehensive applications
- TypeScript: Can create workflows and pipelines, worked with Amazon infrastructure (IAM roles)
- MATLAB: Can create differential equations and graph them with the use of *ode45* and *dirfieldsys*