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Syam Kumar Nallamilli
Developer (Java)

HackerRank　　aws

SUMMARY

Full Stack Developer with expertise in building scalable **microservices architectures** and optimizing performance through advanced **data structures and algorithms**. Skilled in both **frontend** and **backend development**, leveraging technologies such as **React**, **Spring Boot**, **Redis**, and **Google Cloud** Run to build high-performance applications. Experienced in designing modular **microservices** for seamless data handling and real-time user interaction.

SKILLS

- **Programming Languages:** Java
- **Frontend Technologies:** React, HTML, CSS, Redux, Material-UI
- **Backend Technologies:** Spring Boot, RESTful APIs, Maven
- **Databases:** MySQL, MongoDB
- **Data Structures and Algorithms (DSA):** Hash Maps, Arrays and Linked Lists, Graphs and Graph Traversal (BFS/DFS), Priority Queues and Heaps, Caching Strategies (LRU Cache), Sorting and Pagination Algorithms
- **Cloud Services:** AWS (EC2, S3)
- **Libraries/Frameworks:** Hibernate, JPA, Spring Data JPA/MongoDB, Spring Security, Lombok
- **API Tools:** Swagger, Axios, Fetch API
- **Version Control:** Git, GitHub
- **Problem Solving:** HackerRank

PROJECTS

MICROTWEET – SCALABLE SOCIAL PLATFORM WITH MICROSERVICES ARCHITECTURE

Technologies Used : React, Spring Boot, Google Cloud Run, Data Structures & Algorithms

Developed a microservices-based social media platform with high-performance functionality across user profiles, tweet handling, relationship management, and search capabilities. Each feature was implemented as a standalone microservice, deployed on Google Cloud Run for scalability and real-time data processing.

Project 1: User Profiles and Authentication Microservice

- **Frontend (React)**: Managed user authentication with Hash Maps for efficient form state handling; implemented Form Validation Algorithms (e.g., regex) for secure input validation.
- **Backend (Spring Boot)**: Used BCrypt hashing for secure password encryption and Hash Maps to store user sessions and tokens, ensuring fast authentication and session management.

Project 2: Tweet Posting and Retrieval Microservice

- **Frontend (React):** Employed Arrays for dynamic tweet storage and applied Sorting Algorithms to display tweets by timestamp, prioritizing the latest tweets.
- **Backend (Spring Boot):** Utilized B-Trees for efficient tweet indexing and storage, with Linked Lists maintaining tweet order in memory. Implemented Pagination Algorithms for smooth data retrieval in batches.

Project 3: Following System Microservice

- **Frontend (React):** Represented user relationships as Graph Data Structures (adjacency list) and optimized API calls with Debounce/Throttling Algorithms for follow/unfollow actions.
- **Backend (Spring Boot):** Modeled relationships as a Graph (Adjacency List) and used Hash Maps for caching, enhancing follow suggestion efficiency. Employed Graph Traversal Algorithms (BFS/DFS) to suggest mutual followers.

Project 4: Timeline Feed Generation Microservice
- **Frontend (React):** Managed feed sorting using Priority Queues for timestamp prioritization and implemented Merge Sort to merge multiple tweet lists from followed users.
- **Backend (Spring Boot):** Utilized Priority Queues/Heaps for sorting and Merge Sort algorithms for feed unification.

Project 5: Integration, Review, and Dockerization
- **Frontend (React):** Integrated Sets for tracking active users and applied LRU Cache for frequently accessed UI components.
- **Backend (Spring Boot):** Used Sets for active session tracking, implemented LRU Cache for high-demand data, and dockerized the application.

ADDITIONAL PROJECTS

OTT PLATFORM 🔗 Project Link Github Repo X

Technologies Used	React, Redux, Material-UI, TMDB API, HTML, CSS, SpringBoot,Restful APIs, MongoDB, MySql, Axios, Swagger, Postman, Maven

Developed a dynamic OTT platform with TMDB API integration to provide up-to-date movie data. Created a responsive, user-friendly frontend using React, displaying movie information like titles, genres, release dates, and ratings. Implemented Redux for efficient state management, enhancing the app's scalability and performance.

WEATHER APP 🔗 Project Link Github Repo X

Technologies Used	React, Redux, Material-UI, Weather API, HTML, CSS, SpringBoot, MongoDB, MySql, Axios.

Built a real-time weather application with a responsive frontend using React, integrating a weather API for live data (temperature, humidity, etc.) worldwide. Enabled users to search locations and instantly view current weather updates, with a focus on smooth user experience and efficient API handling.

MEETING SCHEDULE Github Repo X

Technologies Used	SpringBoot H2Db , Postman

Developed a Meeting Scheduling application backend using Spring Boot, enabling seamless login functionality for both users and admins. Users can log in to view and select their available time slots, while the admin can access and review selected slots to identify common availability across users. The system automatically displays overlapping slots, allowing the admin to finalize meeting times efficiently.

KEY CONTRIBUTIONS

- **Optimized Performance**: Enhanced application speed and efficiency by implementing data structures and algorithms, including Hash Maps, Arrays, Linked Lists, Graphs, Priority Queues, Tries, and various caching mechanisms.
- **Scalable Architecture**: Designed a modular microservices structure deployed on Google Cloud Run, enabling real-time data processing and efficient request management across distributed services.

CERTIFICATIONS

Program Completion Certification 🔗 Certificate X ACADEMIX

Java Certificate 🔗 Certificate H HackerRank

EDUCATION

B-Tech - ECE(Electronics and Communication Engineering) - 2023 - 70%
Jawaharlal Nehru Technological University Kakinada.