

HEMANTH MANDAPATI

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SUMMARY

- **Experienced Software Engineer** with **8 years** of hands-on expertise in **Java, JavaScript, Python, Cloud solutions,** and **Full-stack development.**
- **AWS Certified Developer - Associate**, demonstrating a commitment to cloud proficiency and advanced development skills ([https://www.credly.com/badges/a5bfebba-2838-4ff0-b831-bde0203cbdf4/public\\_url](https://www.credly.com/badges/a5bfebba-2838-4ff0-b831-bde0203cbdf4/public_url)).



- Extensive experience in conceptualizing, designing, and coding technical solutions using **Java 8, Java 11, Java 17, Python 3, JavaScript, SQL,** and **full-stack technologies** like **Node.js, React.js, HTML, CSS, TypeScript.**
- Proficient in **modern Java (11–17),** applying features like **records, stream APIs, pattern matching,** and **sealed classes** to write clean, concise, and maintainable code in large-scale application
- Hands on experience in development using server-side JS frameworks using **NodeJS, ExpressJS** to build event-driven, non-blocking I/O model web applications.
- Strong expertise in developing and maintaining **RESTful microservices** using **Spring Boot,** with hands-on experience in **controller-service-repository architecture, JPA, and Spring Security.**
- Experience in developing complex **SQL** queries, procedures, triggers and views in **Oracle/MySQL** and **PostgreSQL.**
- Experience with several components in open-source and enterprise software stack including **JavaScript (ReactJS, NodeJS), Git, Python, Java, Spring Boot/MVC,** and **RESTful** and **SOAP-based** web services.
- Utilized **Mocha** Framework and **Chai** Framework to perform Unit testing and Integration Testing of applications.
- Expertise in distributed and scalable application development using **JavaScript, NodeJS, Microsoft Azure, Amazon Web Services (AWS)** and **RESTful Web Services** development.
- Hands-on experience in **Amazon Web Services (AWS)** services like **EC2, Cloud Formation, Lambda Function, AWS SQS, AWS SNS, AWS Cloud Watch, AWS IAM** etc.,
- Skilled in building **robust backend systems** using **Spring Boot 3.x,** leveraging modules like **Spring Data JPA, Spring Web, Spring Security,** and **Spring Cache** for secure and efficient data processing.
- Experience in Spring modules such as **Spring MVC, Spring Boot, REST API with Spring.**
- Worked on implementing CRUD applications using **MERN stack (MongoDB, Express, ReactJS and NodeJS).**
- Solid knowledge of different System design concepts, components including their trade-offs.
- Graduated with a **Master’s in Computer Science** from **University of Southern California (USC).**

TECHNICAL SKILLS

**Languages:** Java , Python, HTML5, CSS, JavaScript, TypeScript, JSON

**Frameworks/Environments:** Spring Boot, NodeJS, ReactJS, REST API, Mocha, Chai, Flask, Django, FastAPI, JUnit, TestNG,

**Databases:** Spring Data JPA, Oracle SQL, MySQL, PostgreSQL, NoSQL, MongoDB

**Tools & Technologies:** Amazon Web Services (AWS), Microsoft Azure, Linux/Unix, Kafka, Git, HP ALM Quality Centre, JIRA

EXPERIENCE

Humana

FEB 2023 - Till date

Software Engineer

Responsibilities:

- Collaborated with the team to build and maintain Humana's Data Interoperability API Gateway using **Java** and **Spring Boot,** integrating with AWS-hosted FHIR services and securing endpoints with OAuth 2.0 for robust authorization
- Designed and coded robust data curators in **NodeJS and TypeScript** for plan details, drug formulary, and comprehensive patient data, enhancing the efficiency of data integration into the FHIR store.
- Refactored legacy Spring MVC controllers and service layers to **Spring Boot 3.x** with modern **Java features (records, switch expressions, sealed classes),** improving code clarity and reducing maintenance overhead.

- Refactored legacy utility **Java classes** using **Stream API**, **Optional**, and **pattern matching for instanceof**, reducing boilerplate code and improving readability across critical business logic module
- Implemented caching strategies using **Redis** and connection pooling with **HikariCP** in **Spring Boot** services, resulting in 60% lower DB load and 30% faster data retrieval during high-traffic periods.
- Architected a **sharded Redis caching** layer using both **Lettuce (Java)** and **ioredis (Node.js)** clients to optimize throughput, achieving sub-millisecond access latency and 25% reduction in cache misses.
- Built responsive dashboards using React.js, integrating custom hooks, Context API, and lazy loading, reducing page load times by 45% and boosting interactivity by 60%.
- Rewrote poorly performing database queries handled via **Spring Data JPA**, optimizing joins, pagination, and query projections, which reduced API response times by **40%** in data-heavy endpoints.
- Monitored application health using **Amazon CloudWatch** Logs and custom metrics, setting up alarms and dashboards to proactively respond to system anomalies.
- Created and maintained **custom global exception handlers** using **@ControllerAdvice** and **@ExceptionHandler**, ensuring consistent and secure error responses across all REST endpoints.
- Leveraged **Kafka Connect** and custom connectors to integrate multiple data sources, reducing data pipeline complexity by **40%** and enabling real-time data synchronization across systems
- Delivered production-ready features in bi-weekly Agile sprints, collaborating with cross-functional teams to ensure requirements were refined, tested, and deployed within defined sprint goals.
- Enhanced backend resilience by integrating **Spring Retry** and fine-tuned **connection pools (HikariCP)** to recover gracefully from transient failures and slow dependencies.
- Wrote robust unit and integration tests using **Junit 5**, **Mockito**, and **Spring Boot Test**, achieving over **85% test coverage** and ensuring reliable code quality for critical healthcare modules.

**Technologies/Framework:** JavaScript, Python, TypeScript, NodeJS, Express.js, ReactJS, Amazon Web Services, Microsoft Azure, Redis, RabbitMQ, Splunk, SQL, Git

## Amazon

MAY 2022 – DEC 2022

### Software Development Engineer

#### Responsibilities:

- Worked on analysis, design, development, and deployment of a Java-based application supporting **metering for AWS Marketplace customers**, integrating with AWS services such as S3, Lambda, and RDS
- Developed a **Spring Boot backend** to power the Unified Cost Portal Dashboard, allowing sellers to download cost templates and upload product pricing changes to **Amazon S3**, triggering downstream workflows.
- Designed and implemented a **secure encryption service** in **Java** to encrypt and decrypt Buyer IDs for Sellers and integrated it with **AWS KMS** for key management
- Architected and implemented **RESTful APIs** using **Spring Boot** for cost update processing and buyer identity encryption, enabling smooth data flow between seller dashboards and internal systems
- Implemented a **Lambda function** that encrypts the buyer information and stores it in a database for metering and entitlement purposes.
- Developed **Cloud Formation template stacks** to automate building new instances using YAML.
- Developed robust **controller-service-repository layers** to handle POST and GET requests for product metadata and pricing updates, persisting data to **Amazon RDS** using **Spring Data JPA**.
- Created a nested stack using **AWS CloudFormation** that contains the Java Lambda function. The **Java lambda function** which is triggered by data from front end makes use of a library for encryption and decryption.
- Exposed the services as REST Web services and developed backend system using NodeJS.
- Used React Hooks to use state and lifecycle methods inside functional components to decrease complexity and improve maintainability and extensibility of the system.
- Revamped the user interface (front-end) using ReactJS to implement functions like CRUD, grid list, search, sort etc.,
- Successfully implemented unit tests and integration tests using **JUnit** and **TestNG**.

**Technologies/Framework:** HTML5, Tailwind CSS, JavaScript, Python, TypeScript, NodeJS, Express.js, ReactJS, Amazon Web Services, AWS CloudFormation, AWS SAM, AWS Lambda, AWS S3, Spring Boot, Hibernate, Maven, SQL, Git

Vodafone

JULY 2018-DECEMBER 2020

Software Engineer II

Responsibilities:

- Developed an enterprise application based on Microservice architecture divided into several services, each independent of the other, serving various functionalities that are integrated using the Spring boot framework.
- Enabled the migration of legacy mediation system to the new application with added functionalities.
- Worked as a Team Lead. Owned business deliverables and worked along with team for successful deployments.
- Collaborated with Digital Route to develop execution context services for Usage Data Platform (UDP). The UDP enabled accurate calculation of billing amounts based on data usage to achieve zero revenue leakage.
- Developed REST Controllers using Spring REST framework to serve with the required JSON data.
- Utilized standard Python modules such as csv, itertools, collections.
- Designed modules/workflows for processing Users' call record details obtained from the network and transforming them according to the requirements of the downstream systems.
- Designed Unix Shell scripts to trigger comparison of output files to produce the discrepancies between them.
- Involved in developing SQL queries, stored procedures, and functions.
- Redesigned an existing web application using Router module of React to make it a Single Page Application and added routers as per requirements.
- Participated in business specifications review meetings and authored multiple low-level design and high-level design documents.

Technologies/Framework: Java, HTML5, CSS, React, Spring Boot, Hibernate, SQL, Git, JUnit, TestNG, Pytest, Shell scripting.

Vodafone

AUGUST 2015-JULY 2018

Software Engineer 1

Responsibilities:

- Worked with a team to develop a chatbot named ‘TOBi’ for a top enterprise.
- Used Spring MVC Framework and Hibernate for ORM Layer for DB connectivity.
- Developed the back-end functionality to retrieve the appropriate pre-set responses to a user's query from a database.
- Utilized NodeJS frameworks like Express and body Parser to create a backend server. This enabled asynchronous processing of client requests.
- Combined the NodeJS Express server with Socket.io to build MVC framework from front end to the back-end database to provide chatting service.
- Revamped the user interface (front-end) using ReactJS as part of migration from AngularJS and vanilla JavaScript.
- Worked with Salesforce CRM to create orders and send the data to WebMethods middleware.
- Developed ordering forms that send data to respective sections of Salesforce CRM sandbox and further automated the order fulfilment procedure.
- Automated the data entry into the ordering forms using Selenium.
- The automation reduced manual effort and time spent on the project by around 60%
- Worked with a team to develop a web application to capture customer service orders/change requests.
- This added a business impact through overall savings of approximately USD 50k per quarter.

**Technologies/Framework:** Python, Java, HTML5, CSS, JavaScript, NodeJS, Spring Boot, Hibernate, Maven, SQL, Git, Junit

PROJECTS

Movie/TV Show Database Website

- Built a website that uses TMDB API to search for movies and TV shows and display the results with the individual details displayed.
- Features include searching for a list of movies, tv shows and seeing more information about them using Show More button.

**Technologies/Framework:** Python, Java, HTML5, CSS, JavaScript, Flask, NodeJS, Microsoft Azure

ACHIEVEMENTS

- Promoted to Software Engineer 2 within two years (**1.5 years in advance**) due to solid performance, positive feedback from customers, and organizational impact.
- Received **Award of Excellence** from Digital Route for exceptional implementation of usage billing module.

EDUCATION

<b>Master of Science in Computer Science</b> , University of Southern California	<b>JANUARY 2021-DECEMBER 2022</b>
<b>Coursework:</b> Analysis of Algorithms, Web Technologies, Database Systems, Software Management & Economics, 3D Graphics & Rendering, Quantum Computing & Quantum Cryptography, and Information Retrieval & Web Search Engines	
<b>Bachelor of Technology in Computer Engineering</b> , GITAM University	<b>JUNE 2011-MAY 2015</b>