

# Habte Selassie Fitsum

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## SUMMARY

Results-driven backend developer specializing in Node.js, Express.js, Mongoose.js, PostgreSQL, SQL, and a range of other cutting-edge backend technologies. With a strong background in server-side development, I possess a deep understanding of building scalable and high-performance applications. Leveraging my expertise in database management, API integration, and cloud computing, I consistently deliver efficient and secure solutions that meet the unique needs of businesses. Proficient in designing and implementing RESTful APIs, I ensure seamless communication between frontend and backend systems. Additionally, my experience with relational databases such as PostgreSQL and SQL allows me to optimize data storage and retrieval processes for maximum efficiency. A collaborative team player, I thrive in agile environments, actively engaging in cross-functional collaboration to drive project success. Committed to staying ahead of the curve, I continuously explore emerging technologies and industry best practices to enhance my skills and deliver innovative solutions. From conceptualization to deployment, I am dedicated to crafting robust backend architectures that power exceptional user experiences.

## PROFESSIONAL EXPERIENCE

### Back-End Developer

Dec '22 - Apr '23

Institute of Code Culture | Addis Ababa, Ethiopia

- Built database schemas using mongoose and Wrote SQL queries to extract data from the database
- Designed and developed database schemas to meet business requirements
- Wrote optimized SQL queries to enhance database performance
- Created and maintained API that facilitated seamless connectivity between platform front-end and back-end components
- Developed and executed back-end code for efficient processing of requests and responses.
- Designed and developed efficient API endpoints for seamless data transfer
- Integrated the functionality of Firebase login with Google & Facebook to increase users by 20%.
- Built and managed web services that integrate with third-party APIs
- Expertly integrated various social networking platforms into web services, resulting in improved brand visibility and customer engagement.
- Implemented security measures to safeguard the back-end of the application from security risks through encryption, authentication, and authorization.
- Developed and implemented secure user authentication and authorization systems such as OAuth or Open ID Connect.
- Maintained automated tests to ensure the reliability and security of back-end code.
- Conducted comprehensive functional and security testing of API to ensure optimal performance and security
- Wrote optimized SQL queries, resulting in a 25% improvement in database performance and faster query execution.

- Improved database performance by identifying and resolving bottlenecks, resulting in a 40% reduction in response times and improved system efficiency.
- Designed and developed API endpoints that facilitated seamless connectivity between platform front end and back-end components, ensuring smooth data transfer and communication.
- Developed efficient backend code for processing requests and responses, resulting in a 30% decrease in response times and improved system performance.
- Implemented security measures such as encryption, authentication, and authorization, resulting in a 75% decrease in security incidents and enhanced system integrity.
- Adapted the complex backend architecture to handle increased usage and traffic, resulting in a 60% improvement in website performance and stability.

## Software Developer

Jan '21 - Present

Freelance | Addis Ababa, Ethiopia

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- Developed web applications and user interfaces (UI) using HTML, Express.js, Node.js, and MongoDB, tested code through Jest, and collected and evaluated user feedback to achieve desired outcomes.
- Developing code for software applications, online apps, and other software solutions using JavaScript programming languages and a variety of frameworks, including React, Tailwind CSS, Express.js, Node.js, MySQL, MongoDB, Bootstrap, HTML, and more.
- Testing and debugging the code to make sure it functions as intended and to identify and correct any problems or issues that might appear.
- Planning the technologies and tools to be used while also designing the software architecture for the software applications.
- Working with others Independent software engineers may collaborate with other independent contractors or freelancers who have distinct specialties, such as user experience design, full stack development, or database development.
- Client communication: They interact with clients to learn about their needs and give regular updates on the status of projects.
- Promote their expertise and services, discover new clients and projects, and grow their business by negotiating deals and fees.
- Creating a data model for the application and defining the database tables, relationships, and constraints are all parts of developing the database schema.
- Writing server-side code that processes incoming requests from the application's client side. Implementing business logic, managing data processing, and collaborating with other systems or APIs are all included in this.
- Including third-party services in a system, such as payment gateways, messaging services, or social network APIs
- Writing API documentation and providing instructions for other developers to use the API.
- Testing and debugging the server-side code to ensure that it is working correctly. They may also need to debug issues that arise and implement fixes.
- Scaling and optimizing the backend infrastructure to handle increased traffic and load, This might involve optimizing the code, using caching techniques, or implementing load-balancing strategies.

## Back-End Developer

Dec '22 - Present

Addis Ababa | Ethiopia

- Developed RESTful web APIs to collect, store, and manipulate data from multiple sources using Node.js, MySQL, and MongoDB.
- Collaborating with the front-end developer to ensure that the server-side code and the client-side code are properly integrated.
- Designing the database schema involves creating a data model for the application and designing the database tables, relationships, and constraints.
- Developing server-side code that runs on the server and handles incoming requests from the client side of the application. This includes implementing business logic, handling data processing, and interacting with other systems or APIs.
- Integrating with third-party services, such as payment gateways, messaging services, or social media APIs
- Security and data protection: implementing security measures to protect the application and its data from unauthorized access.
- Optimizing the server-side code to improve the application's performance, such as reducing server response time, minimizing the amount of data transferred, or optimizing database queries.
- Troubleshooting issues that arise with the application, such as system crashes or database errors. They may also provide technical support to users or other developers who encounter problems with the API.

## PROJECTS

### Tours Application Back end Development

Nov '22 - Jan '22

Personal | Addis Ababa

- -Tour listings - the application displays a list of available tours for users to browse Through. Each tour card typically includes a tour image, name, price, and rating. User to
- Tour details - when a user clicks on a tour card, they are taken to a tour details page that displays more information about the tour, such as the tour description, itinerary, Availability, and reviews. Log in, and log out. Certain features, such as booking or managing tours, may require a user To be logged in.
- Tour booking and payment processing - users can select a tour and book it through the Application.
- User reviews and ratings - users can leave reviews and ratings for tours they have booked, This can help other users decide which tours to book.
- User profile management - users can view and edit their profile information, such as their Name, email address, and password. Tours, including adding new tours, editing tour details, and updating tour availability.
- The project may utilize static JSON or JavaScript data files to simulate dynamic content such as tour information, user reviews, or booking details.
- Include a simulated form submission for the contact form, which could involve sending the form data to a simulated backend server or displaying a success message.
- The project showcases a booking flow where users can select a tour, enter their details, and proceed to a simulated booking confirmation page without involving actual payment processing or backend communication.

### Backend Development for Reddit Clone Application:

May '23 - Present

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- - Spearheaded the development of the Backend infrastructure for a Reddit clone application using Node.js, Express.js, MongoDB, and Socket.io.
- - Implemented RESTful APIs to handle a wide range of functionalities, including user registration, authentication, and authorization, post creation and retrieval, commenting, voting, and seamless interactions with different Subreddits.
- - Leveraged the power of JWT (JSON Web Tokens) and OAuth to ensure robust user authentication and authorization mechanisms, safeguarding user privacy and data security.
- - Designed and implemented a scalable MongoDB database schema that efficiently stored and retrieved user data, posts, comments, and related metadata.
- - Employed rigorous input validation and sanitization techniques to fortify the application against common security vulnerabilities, ensuring data integrity and preventing potential attacks.
- - Utilized Socket.io, a real-time web communication library, to enable instant updates and real-time interactions between users, providing them with immediate notifications on post activities, comments, and other dynamic content.
- - Established comprehensive error handling and logging mechanisms to proactively identify and address potential issues, ensuring the stability and reliability of the backend application.
- - Seamlessly integrated external services such as AWS S3 for efficient storage and retrieval of user-uploaded images and SendGrid for reliable email notifications and communication.
- - Optimized backend performance through effective caching strategies, database indexing, and query optimization techniques, resulting in lightning-fast response times and improved scalability to handle high user loads.
- - Fostered a collaborative environment by closely collaborating with the frontend development team to define clear API specifications, facilitating smooth integration between the frontend and backend components.
- - Actively participated in an Agile development environment, engaging in daily stand-ups, sprint planning, and code reviews, to ensure efficient project management and adherence to project timelines.

## **Back end Development for Instagram Clone Application:**

Apr '23 - Present

**personal | Addis Ababa**

- - Led the development of the robust backend infrastructure for an Instagram clone application using Node.js, Express.js, MongoDB, and Socket.io.
- - Architected and implemented a scalable and performant RESTful API to handle critical features of the Instagram platform, including user management, authentication, profile creation, photo and video uploads, feed generation, comments, likes, and direct messaging.
- - Implemented secure user authentication and authorization using JSON Web Tokens (JWT) and OAuth 2.0, ensuring the confidentiality and integrity of user data.
- - Designed and optimized the MongoDB database schema, effectively storing and retrieving user profiles, posts, comments, likes, and associated metadata with high efficiency.
- - Leveraged advanced image and video processing techniques to handle media uploads, including resizing, cropping, and compression, optimizing storage and maintaining optimal visual quality.
- - Implemented advanced search functionality, empowering users to discover content through hashtags, locations, and user profiles, enhancing user engagement and content exploration.

- - Utilized Socket.io for real-time communication and notifications, enabling instant updates on activities like likes, comments, and direct messages, providing a seamless and interactive user experience.
- - Integrated third-party APIs such as Google Maps API to enable location-based services, allowing users to tag posts with locations and explore posts from specific geographic areas.
- - Implemented robust security measures, including input validation, sanitization, and encryption of sensitive data, to mitigate common web vulnerabilities and protect user information.
- - Implemented an explore feature that provides users with personalized recommendations and trending content based on their interests, engagement patterns, and popular posts.
- - Implemented a feature to track hashtags used in posts and allow users to follow specific hashtags of interest.
- - Expanded the direct messaging functionality by adding features such as message reactions, read receipts, and message deletion.
- - Integrated analytics capabilities to track user activity and engagement metrics.
- Implemented backend logic to collect and analyze data such as post views, likes, comments, and follower growth, enabling users and administrators to gain insights into their audience and content performance.

## **Backend Development for Twitter Clone Application:**

Apr '23 - Present

**personal** | Addis Ababa

*The backend development of the Twitter clone application involved implementing a range of features and functionalities to provide users with a seamless and engaging social media experience. Some of the key features developed include:*

- User registration, login, and profile management with secure authentication and authorization.
- Posting functionality for text, images, and links, including retweet functionality.
- Timelines that display tweets from followed users.
- Hashtag tracking and trending topics to explore popular discussions.
- Notifications for new followers, likes, retweets, and mentions.
- Direct messaging between users with real-time updates.
- Efficient search functionality for tweets, users, hashtags, and trends.
- Data analysis and visualization for user engagement and tweet performance.
- Account verification and moderation tools to handle spam and abusive content.
- Integration with third-party APIs for authentication, cloud storage, and real-time updates.
- Media uploads and storage for images and videos in tweets.
- Explore and discovery features to recommend trending posts and popular accounts based on user interests.
- Advanced filtering options for search results, allowing users to refine their searches by date, location, user, or media type.
- Real-time streaming of tweets and user activities using technologies like Web Sockets for instant notifications and a seamless user experience.
- Developed a notification system to notify users about new followers, likes, retweets, and mentions. Implemented backend logic to handle mentions, ensuring users receive appropriate notifications.
- Developed timelines functionality to enable users to follow other users and view their tweets on their timeline.

- Implemented backend logic to manage followers and following relationships, ensuring seamless user interactions and content discovery.
- Enhanced the search functionality with advanced filters, enabling users to refine their search results based on criteria such as date, location, user, or media type.
- Implemented robust security measures to protect user data and ensure compliance with data privacy regulations. It utilized encryption techniques to secure sensitive information,
- implemented access controls to prevent unauthorized access, and regularly audited and monitored system logs for potential security breaches.
- Leveraged technologies like Web Socket real-time or Server-Sent Events (SSE) to enable real-time streaming of tweets and user activities.
- Implemented backend processes to push updates to clients in real-time, providing instant notifications and an immersive user experience.

## **KEY SKILLS**

### **Programming Languages:**

- C++
- CSS
- HTML
- Java
- JavaScript
- PHP
- Python
- SQL
- TypeScript

### **Frameworks and Libraries:**

- Node.js
- Express.js
- Nest.js
- Django
- MongoDB
- Mongoose
- Passport.js
- JWT
- Socket.IO
- Axios
- Firebase
- Redis
- GraphQL
- Twilio
- AWS SDK

- Open API/Swagger

## **Database**

- SQL
- MongoDB
- MySQL
- PostgreSQL
- Redis
- GraphQL

## **Key Skills:**

- API Design
- API Documentation
- Authentication
- Data Modeling
- Database Security
- DBMS (Database Management Systems)
- Docker
- Infrastructure
- Object-Oriented Programming
- Object-Relational Mapping
- Performance Optimization
- RESTful API
- SQL Queries
- Stored Procedures
- Version Control
- Web APIs
- Web Security
- Web Services
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## **DevOps and Infrastructure:**

- AWS (Amazon Web Services)
- Azure
- Docker
- Git
- Google Cloud
- Jenkins
- Kubernetes
- Linux
- Windows

- Workflow Management

## Certifications

### **Mern stack with a blog project**

Udemy 2023

The certificate is a testament to my proficiency in the mern stack technologies covered in the Course.

### **Great learning \* 2022**

To successfully complete a free online intermediate HTML course

### **Great learning \* 2022**

To successfully complete a free online CSS course

### **Jobberman soft-skills training**

Jobberman \* 2021

Certified for successfully completing and passing the Jobberman soft-skills training

Ylc Leadership & entrepreneurship summit, 2021

Youth international conclave \* 2021

Leadership & entrepreneurship summit 2021.

## HOBBIES

-Football

-Running

-Aerobics

## Education

Bachelor of computer science

Addis Ababa University, Ethiopia

2019-2024

The certificate is a testament to my proficiency in the mern stack technologies covered in the Course.

Bachelor of Software Engineering

Udemy, Addis Ababa, Ethiopia

2022-2023



To successfully complete a free online intermediate HTML course

Full Stack Mern Website Development

Udemy, Addis Ababa, Ethiopia

2022-2023