**Matusala K. Gebrehiwot**

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**EDUCATION**

**Oulu university of Applied Science Oulu, Finland**

*B.S. in Information Technology Expected Graduation, Dec 2025*

* **Concentrations:** Software Engineering
* **GPA:** 4.3/5.00
* **Related Coursework:** Web Development, Mobile Development, Object-Oriented Programming, Database Systems, System Architecture, Software Testing & Quality Assurance, Machine Learning

**Hive Helsinki (42 Network) Oulu, Finland**

*B.S. in Information Technology Expected Graduation, Dec 2026*

* **Concentrations:** Low-Level Programming & System Architecture
* **Related Coursework:** C Programming, Unix Systems, Algorithms, Memory Management, Process Management, Computer Architecture, Data Structures & Algorithms

**EXPERIENCE**

**ZKHAUTO Helsinki, Finland**

*Software Development Engineering Intern July 2024 – Present*

* **Designed, developed, and deployed** end-to-end car dealership web application from scratch using Next.js, Node.js/Express, and MongoDB, following **Software Development Life Cycle (SDLC)** and **Agile methodology**
* Engineered secure **RESTful API** with 15+ endpoints managing vehicle inventory, customer data, and dealership operations, implementing **data validation** using express validator to ensure data integrity
* Implemented comprehensive **authentication and authorization system** using JWT with bcrypt hashing/salting and **Google OAuth 2.0** via Passport.js, adhering to **secure coding practices**
* Integrated **Google Cloud Storage API** for high-quality vehicle image management, resolving complex bucket configuration challenges and optimizing storage architecture
* Designed and implemented **relational database schema** with normalized tables, establishing efficient data relationships and query optimization strategies
* Conducted **unit testing** using Jest framework and performed **system integration testing**, achieving robust **error handling** and **debugging** throughout development lifecycle
* Collaborated in **code reviews** with engineering team, providing and incorporating technical feedback to maintain code quality standards and **SOLID principles**
* Applied **problem determination** methodologies to troubleshoot and resolve application defects, performing **root cause analysis** on critical issues

**ETA Solutions Addis Ababa, Ethiopia**

*Software Development Engineering Intern June 2024 – Aug 2024*

* Developed user-facing interfaces for Point-of-Sale (POS) and cash register system using **React** focusing on **user experience (UX** optimization for both customer and business workflows
* Collaborated with **business partners** to gather and define **detailed business requirements**, translating stakeholder needs into technical specifications
* Designed and implemented responsive UI components with **HTML/CSS** ensuring cross-browser compatibility and mobile responsiveness
* Participated in **Agile sprint planning** and daily standups, contributing to iterative development process and team collaboration
* Conducted usability testing and incorporated user feedback to enhance interface design, improving overall customer satisfaction

**PROJECTS**

**Speedy-Delivery Project Helsinki, Finland**

*Full Stack Web Delivery Service – Team Lead Oct 2023 – Dec 2023*

* Led 3-person development team through complete **Software Development Life Cycle (SDLC)**, managing **project planning**, task allocation, and timeline adherence for comprehensive delivery platform
* Architected and developed **four integrated system components**: Backend API (Node.js/Express), Consumer Web App (React), Driver App (React), and IoT Locker Simulator
* **Designed and implemented RESTful API** with 20+ endpoints handling user registration, authentication, parcel tracking, real-time status updates, and delivery management
* Built **real-time tracking system** using Socket.io for live parcel location updates and driver-consumer communication
* Engineered secure **authentication system** with JWT tokens (bcrypt hashing/salting) and **Google OAuth 2.0** integration using Passport.js
* Designed **MongoDB database schema** with collections for users, parcels, drivers, and lockers, implementing efficient data relationships and indexing strategies
* Deployed full application stack to Vercel, configuring environment variables and implementing CI/CD practices
* Conducted **Proof of Concept (POC)** for IoT locker integration, documenting technical findings and feasibility analysis
* Performed comprehensive **unit testing** and **system integration testing**, ensuring seamless communication between all four components

**SuomiStay Oy Helsinki, Finland**

*Mobile Booking System – Team Leader Apr 2023 – Jun 2023*

* Directed 3-person team in developing **React Native** mobile application for hotel booking system across Finland
* Developed complete booking workflow including search functionality, availability checking, reservation system, and booking confirmation
* Implemented **RESTful API integration** connecting mobile frontend with backend services for hotel data and reservation management
* Designed responsive mobile UI components following **React Native best practices**, ensuring smooth user experience across iOS and Android platforms
* Managed manual data population for hotel inventory, room types, pricing, and availability information
* Conducted **unit testing** and user acceptance testing (UAT) to ensure application reliability and performance
* Coordinated team tasks, facilitated technical discussions, and resolved integration challenges throughout 3-month development cycle.

**Low-Level System Programming Projects (Hive Helsinki/42) Helsinki, Finland**

*Mobile Booking System – Team Leader Apr 2023 – Jun 2023*

**Minishell:** Engineered Unix shell replica in **C**, implementing process management, pipe operations, redirections, environment variable handling, and signal processing, demonstrating deep understanding of **system architecture** and OS fundamentals

**Push Swap:** Developed optimized sorting algorithm in **C** with maximum efficiency constraints, showcasing advanced **data structures** and **algorithm design** skills with complexity analysis

**Additional Projects:** Completed libft (custom C library), ft\_printf (printf implementation), and philosophers (multithreading/synchronization), emphasizing **memory management**, **debugging**, and low-level programming proficiency

**Career Summary**

Full-stack software engineering student with 6+ months of professional internship experience specializing in **designing, developing, and deploying** scalable web applications. Proficient in modern **JavaScript frameworks** (React, Next.js, Node.js), **relational and NoSQL databases**, and **secure authentication systems**. Strong foundation in **C/C++** through intensive system programming curriculum at Hive Helsinki (42 Network). Demonstrated ability to lead cross-functional teams, collaborate with business stakeholders, and deliver production-quality code following **SDLC best practices**. Experienced in **API design and integration**, **unit and system integration testing**, and **root cause analysis**. Eager to contribute technical skills and **problem-solving abilities** to TD Bank's innovative technology platforms.

**Professional Attributes**

**Reliable & Safety-Centric:** Attentive to producing robust and reliable software, with a focus on achieving functional safety in design and implementation.

**Collaborative Team Player:** Effective communicator with strong teamwork skills, dedicated to achieving project goals.

**Creative Problem Solver:** Passionate about tackling challenging problems and developing innovative, practical solutions.

**SKILLS**

**Programming Languages:** JavaScript, Java, C, C++, Python, SQL, HTML/CSS, TypeScript

**Frameworks & Libraries:** React, Next.js, Node.js, Express.js, Spring Boot, React Native, Jest

**Databases & Storage:** MongoDB, PostgreSQL, Microsoft SQL Server, Google Cloud Storage, Supabase

**Development Tools:** Git, Docker, Linux/Unix, Windows, npm, Vercel

**Development Practices:** Agile/SDLC, Unit Testing, System Integration Testing, RESTful API Design, Code Review, Debugging, Root Cause Analysis

**Key Concept:** Object-Oriented Programming (OOP), SOLID Principles, Data Structures & Algorithms, Authentication & Authorization (JWT, OAuth 2.0), Data Validation, API Integration