

Lebone Montoedi

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PROFILE SUMMARY

Final-year Computer Science student with proven team leadership and a strong grasp of core CS fundamentals. My experience is centered on architecting complex, full-stack systems, as demonstrated in my leadership role building the Eskom Expo platform. I have applied theoretical concepts in software architecture/dev (MVC), relational database design, data modeling, and secure API development to real-world projects. I am eager to apply this practical foundation in system design and AI integration (using Google's Gemini) to rigorous, graduate-level research in computer science.

WORK EXPERIENCE

Tutor/Assistant

University of Johannesburg | February 2025 – October 2025

- Guided first years who typically do not have any experiences with C++ programming to gain understanding of the core concepts associated with computer science. Knowledge areas I focused on include Variables, Functions, Modules as well as problem solving.
- The issues I struggled with were mostly students failing to explaining the code which they had written. So to assist them I typically ask them questions starting with the easiest ones going all the way to the hardest and then finally fill their knowledge gaps with my knowledge in the field.

EDUCATION

University of Johannesburg

Bachelor of Science in Information Technology in Computer Science and Informatics (2025)

CERTIFICATIONS

- Motus Hackathon July 2025 Certificate of Participation

SKILLS

- Experienced in software architecture, including MVC, full-stack system design, and RESTful API development.
- Skilled in database design for relational and NoSQL schemas, data modeling, and ORM using LINQ.
- Proficient in security and authentication, including JWT-based solutions and secure endpoint design.
- Experienced in AI/ML integration using APIs such as Google Gemini and Vertex AI.
- Knowledgeable in Agile development, sprint planning, version control, code review, and Docker containerization.
- Strong foundation in core programming concepts and C++ fundamentals.
- Programming languages include C#, JavaScript, C++, and SQL.
- Experienced with frameworks and runtimes such as Node.js, ASP.NET, React, React Native, and Express.js.
- Worked with databases and cloud platforms including SQL Server, PostgreSQL, Google Firestore, Firebase Auth, and Google Vertex AI.
- Proficient with development tools and IDEs including Git, GitHub, Docker, Visual Studio, and VS Code.
- Strong problem-solving, communication, teamwork, and adaptability skills.

PROJECTS

1. Artis at Auction — Full Stack Auction Platform (Group Project)

Link: <https://github.com/lk-montoedi/Auction-Website>

Technologies: HTML, CSS, C#, ASP.NET, SQL Server, LINQ to SQL, Visual Studio

- Developed and deployed a full-stack auction platform in Visual Studio, enabling artisans to upload and showcase their artwork, share inspiration stories, and allow buyers to bid in real time.
- Engineered the backend using ASP.NET with C#, implementing secure authentication, dynamic bidding logic, and efficient CRUD operations powered by LINQ to SQL ORM for seamless data manipulation and abstraction.
- Designed and optimized a relational database schema in SQL Server, applying normalization techniques and indexes to enhance query performance and maintain data integrity.
- Built a responsive front-end interface using HTML and CSS, emphasizing usability, accessibility, and a clean design aligned with modern UI/UX standards.
- Applied the MVC architectural pattern to separate business logic, presentation, and data layers, ensuring scalability, maintainability, and easier feature extension.
- Utilized Visual Studio IDE tools, including integrated debugging, IntelliSense, and server explorer, to accelerate development, streamline testing, and maintain code quality.
- Incorporated version control with Git for collaborative development and consistent version management across project iterations.
- Analysed and addressed business problems in the art and fashion domain, using technical expertise to empower local artisans through a platform that enhances visibility and market reach.
- Demonstrated strong analytical thinking, problem-solving, and adaptability, leveraging AI-assisted workflows to enhance development efficiency and productivity.

2. Eskom Expo Hub — Full Stack Management System for the Eskom Expo division (Group Project)

Link: <https://github.com/lk-montoedi/eskom-expo-app>

Technologies: JavaScript, React, React Native, Node.js, Express, Postgres SQL database, RESTful APIs, Docker, Visual Studio Code, Git/GitHub

- Led a development team through full-lifecycle delivery of the Eskom Expo judging and event management platform, owning architecture, sprint planning, task allocation, code review, and deployment.
- Directed UI/UX design and implementation using JavaScript and React/React-Native, creating role-based interfaces for judges, convenors, teachers, learners and managing complex workflows.
- Oversaw API design and backend integration, developing RESTful endpoints and data pipelines to manage projects, schools, events, participants and judging logic — ensuring secure, performant, and scalable operations.
- Containerized the application stack with Docker, enabling consistent development, staging and production environments, and simplified deployment.
- Standardized development environment using VS Code, Git/GitHub version control, branching strategies and code reviews to maintain high code quality and rapid iteration.
- Implemented data modelling and database interaction, choosing appropriate schema designs to represent judges, marksheets, conflicts, event stages and user roles — ensuring data integrity and efficient querying.
- Applied agile methodologies including backlog grooming, sprint planning and stand-ups; tracked progress, removed blockers and coordinated stakeholder feedback to deliver incremental value.
- Mentored the team, enforced clean-code practices, led peer reviews, supported junior developers in debugging, problem-solving and system understanding — fostering a collaborative engineering culture.
- Translated real-world domain requirements (paper-based judging, mark conflict resolution, multi-stage event flows) into technical solutions, increasing fairness, transparency and efficiency in the judging process.

3. Web Gemini Summarizer — AI-Powered Summarization App (Solo Project)

Link: <https://github.com/lk-montoedi/web-gemini-summarizer>

Technologies: JavaScript (ESM), Node.js, Express.js, Google Gemini AI, Firebase (Auth & Firestore), EJS, HTML5, CSS

- Architected and developed a full-stack AI application, providing users an intuitive chat-like interface to submit text and receive real-time, high-quality summaries generated by Google's Gemini Pro model.
- Engineered the backend API using Node.js and Express.js, integrating the Google Vertex AI SDK to process summarization requests and managing all asynchronous logic to communicate with the Gemini Pro model.
- Implemented a robust, token-based authentication system using Firebase Authentication (Google Sign-In) and custom Express.js middleware to verify JWTs, securing all API endpoints.
- Designed and integrated a NoSQL database (Google Firestore) to persist all user-generated summaries, linking each summary to the authenticated user's ID for future retrieval and history.
- Applied the MVC (Model-View-Controller) pattern to structure the Node.js application, ensuring a clear separation of concerns between the API logic, data handling, and the EJS templating.
- Orchestrated multiple Google Cloud services (Vertex AI for AI, Firebase for Auth, Firestore for DB), demonstrating the ability to integrate disparate, complex cloud APIs into a single, cohesive application.
- Identified a common user need for text comprehension and translated it into a technical solution, showcasing the ability to leverage emerging AI technology to build a practical, user-centric tool.