Matome Lethwane

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Summary

I possess the ability to tackle complex programming challenges with confidence. My studies covered a broad range of areas, including data structures, databases, concurrent and parallel programming, architecture, and assembly language. This foundation was further strengthened by coursework in advanced computer networks, operating systems, software design, algorithms, and ERP systems, with hands-on experience using SAP.

In addition to my academic background, I actively applied my programming skills by tutoring students in C# .NET. This experience allowed me to effectively translate programming concepts across languages, solidify my own understanding of core principles, and develop strong communication skills.

I am proficient in a wide array of technologies, including Python, Java, C#, JavaScript, React, the .NET Framework, and database management (Relational and NoSQL). I also have experience with cloud platforms like AWS and Google Cloud, as well as data visualization tools such as Tableau, Qlik Sense, and Power BI.

This combination of academic achievement, practical experience, and technical expertise makes me a valuable asset for any development or data-driven team.

Experience

Information Systems Tutor   University of Cape Town

Jan 2023 – June 2024

- **C# Programming Support**: Guided students through understanding the fundamentals of C# programming, including syntax, object-oriented principles, and best coding practices. Provided indepth support for developing robust applications using .NET Windows Forms.
- **Assessment Management**: Graded assignments and tests meticulously, offering constructive feedback tailored to help students identify their strengths and areas for improvement. Ensured grading aligned with the course rubric and learning objectives.
- **Collaborative Teamwork**: Participated in regular meetings with lecturers and fellow tutors to discuss course progress, address student challenges, and coordinate lesson plans. Played a role in refining workshop content to align with curriculum goals.
- **Interactive Learning Facilitation**: Conducted online hotseat sessions to address student queries in real time. Organized and led interactive workshops and exercise sessions designed to reinforce programming concepts and problem-solving techniques.
- **Project Assistance**: Provided hands-on support to students working on their semester projects, guiding them in applying theoretical knowledge to practical implementations. Reviewed project

progress, offered debugging assistance, and ensured students adhered to best practices in software development.

- **Learning Resource Development**: Created supplementary materials, including code examples and detailed explanations, to enhance students' understanding of complex topics. Ensured resources were accessible to cater to diverse learning styles.
- **Skill Development Focus**: Helped students cultivate essential skills such as algorithmic thinking, debugging, and effective teamwork within the context of collaborative software projects.

Science Students' Council Events Coordinator

University of Cape Town
November 2023 – November 2024

- **Event Planning and Management**: Spearheaded the planning, organization, and execution of various events aimed at promoting student engagement, academic excellence, and community building within the Faculty of Science.
- **Student Representation**: Acted as a key representative for science students, voicing their interests and concerns in council meetings and broader university forums. Advocated for initiatives that enhanced the student experience.
- **Leadership in Collaboration**: Worked closely with fellow council members and faculty staff to ensure events aligned with the council's objectives. Fostered teamwork and managed crossfunctional coordination to achieve successful outcomes.
- **Engagement Activities**: Designed and hosted events such as workshops, academic seminars, networking sessions, and social gatherings, ensuring diverse participation and inclusivity.
- **Communication and Outreach**: Facilitated effective communication between the council and students by promoting events through digital platforms, posters, and face-to-face interactions. Encouraged student involvement and feedback.
- **Budget Management**: Oversaw event budgets, ensuring the efficient allocation of resources while maintaining cost-effectiveness.
- **Crisis Management**: Addressed and resolved unforeseen challenges during events, demonstrating adaptability and problem-solving skills to maintain smooth operations.
- **Achievements**: Contributed significantly to the success of key events, such as hosting Sea Harvest at UCT, which strengthened industry connections and enhanced the visibility of the council's initiatives.

Software Developer

The Soweto Barbershop
June 2023 - December 2024

Problem Identification: Observed inefficiencies caused by long queues, which disrupted customer satisfaction and barbershop operations.

Solution Development: Conceptualized and implemented a digital queuing system to address these challenges, leveraging modern web development tools and APIs.

Technologies Used Utilized React for a dynamic user interface, Firebase for real-time data synchronization, and the WhatsApp API to automate customer notifications.

Key Features:
- Customers could book queue slots remotely and receive updates about their queue position via WhatsApp.
- Real-time queue monitoring and status updates reduced waiting times and improved overall efficiency.
- An intuitive interface for staff simplified queue management.

Impact: Delivered a robust solution that improved operational workflow, reduced customer wait times, and demonstrated innovative problem-solving.

Skills Applied:
- Proficiency in React and Firebase for scalable application development.
- Integration of third-party APIs (WhatsApp API) for enhanced user experience.
- Effective communication with stakeholders to ensure the system addressed user needs.
- Strong problem-solving and research capabilities, ensuring a practical and impactful solution.

You can visit the barbershop website that I developed here: https://thesowetobarbershop.co.za/

Education

University of Cape Town

Bachelor's degree, Computer Science and Information Systems

Computer Science Specialization:

- Comprehensive training in programming languages such as **Python** and **Java**, with a focus on developing efficient and scalable software solutions.
- Mastery of **data structures**, **databases**, and **algorithms**, emphasizing problem-solving and optimization techniques.
- In-depth understanding of **computer architecture** and **operating systems**, enabling a foundational grasp of hardware-software interaction.
- Specialized knowledge in **mobile application design**, **networks**, and **concurrent/parallel programming**, equipping me to handle modern distributed systems.

Information Systems Second Major:

- Expertise in **system analysis**, including requirements gathering, stakeholder engagement, and system feasibility studies.
- Proficient in **system design and development**, with hands-on experience in crafting solutions aligned with business needs.
- Insight into **electronic commerce** systems, focusing on the integration of technology and business for online platforms.

- Familiarity with **Business Process Management (BPM)** and **enterprise systems**, ensuring operational efficiency and process optimization.
- Skilled in **IT project management**, including resource allocation, risk assessment, and agile methodologies.

Skills

Technical Proficiencies

- **Programming Languages:** Python, Java, JavaScript, C#, React
- **Frameworks & Tools:** .NET Framework, Firebase, Git, Excel, Word, Microsoft Access, Tableau, QlikView/Qlik Sense, Power BI
- **Database Management:** Relational and NoSQL Databases (MySQL, PostgreSQL, MongoDB), ETL tools (Talend, Apache NiFi)
- **Data Analysis & Visualization:** Advanced Excel (pivot tables, charts), Python libraries (Pandas, Matplotlib, Seaborn, Plotly), Tableau, Qlik Sense, Power BI
- **Cloud Platforms:** AWS, Google Cloud, Azure (for data integration and management)
- **Data Integrity Tools:** OpenRefine, Alteryx, Tableau Prep
- **Version Control:** Git (GitHub, GitLab)
- **Documentation Tools:** Confluence, Notion

Professional Skills

- **Critical Thinking:** Ability to analyze complex problems and develop effective solutions.
- **Strategic Planning:** Expertise in setting goals, defining priorities, and aligning tasks with long-term objectives.
- **Communication:** Strong written and verbal communication skills for effective collaboration and presentation.
- **Project Management:** Proficient in resource allocation, risk management, and delivering projects on time using AGILE Development.

Problem-Solving

- Proven ability to identify challenges, assess options, and implement practical solutions across diverse projects.
- Adept at ensuring data quality, integrity, and normalization for actionable insights.

Projects

Virtual Reality Museum Platform (CSIR)

Project Description:
Developed as part of a CSIR-sponsored design thinking project during my INF3011F Project Management course at UCT. The project aimed to explore the preservation of sports, arts, and culture through Non-Fungible Tokens (NFTs) and blockchain technology. The result was a web-based Virtual Reality (VR) Museum platform designed to digitally preserve cultural heritage and engage audiences.

Key Responsibilities:

- **Concept Development**: Collaborated with the team to apply design thinking techniques to ideate and refine project objectives.
- **Software Design & Development**: Contributed to developing a secure and interactive VR Museum platform that incorporated blockchain and NFT technologies.
- **Technology Research**: Researched identity management best practices and emerging technologies for integrating digital heritage assets.
- **Presentation & Collaboration**: Presented the platform during a workshop hosted by CSIR for the Department of Sport, Arts, and Culture (DSAC), demonstrating its functionality and impact.

Technologies Used:

- Blockchain technology
- VR platform tools
- Secure web development practices

Impact:
The VR Museum platform provided a groundbreaking approach to preserving and experiencing cultural heritage digitally, demonstrating my ability to innovate and work collaboratively on research and development projects.

You can interact with the museum on the link below:
https://inf3011team12.web.app/

For detailed information on my projects and additional achievements, please visit my portfolio at https://matomemali.web.app/ and https://github.com/uMsotra for the source code.

References

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