JOHN BROWN OUMA

Software Developer

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https://github.com/Jb-rown

Key Achievements and Skills

● **Solid Foundation in Computer Science fundamentals:** Expertise in algorithms, data structures, programming paradigms, software development methodologies, and computer architecture.

● **Proficiency in multiple programming languages:** Hands-on experience in C/C++, JavaScript, Python, Scala, Java, PHP, C#, with practical knowledge of tools like Arduino, Raspberry Pi, and GitHub.

● **Software Design & Development:** Practical experience in Functional Programming, Event-Driven Programming, OOP, Web Application Development, Database Management, and Data Analysis & Algorithms.

● I have gained valuable theoretical knowledge in areas such as Functional programming, Event-driven programming, object-oriented programming, web Application Development, Procedural programming, Declarative and imperative programming, Data Structures, Database management, software engineering and data analysis and algorithms. Moreover, I have actively participated one hackathon, embedded electronic computer activities and school projects

● **Problem-Solving and Critical Thinking :** Adept at tackling complex problems, applying critical thinking to find innovative solutions, and debugging software efficiently.

Technical Skills:

● **Programming languages:** C/C++, JavaScript, Python, Java, Scala, PHP, C#, HTML, CSS, SQL.

● **Software Development Tools:** Visual Studio Code, IntelliJ, PyCharm, Eclipse, Sublime Text, Atom, Replit, CLion, Bootstrap.

● **Web Development Technologies:** HTML, CSS, JavaScript, PHP, React.js, Next.js, Django, Bootstrap.

● **Database Management:** MySQL, MongoDB, PostgreSQL,SQLite.

● **Version Control:** Git, GitHub, GitLab.

● **Operating Systems:** Proficient in working with Windows, Linux (Ubuntu) Experience with command-line interfaces (CLI) for system management and automation tasks.

● Knowledge of **virtualization** and containerization technologies like **Docker** and **VMware**.

- **Computer Networking Principles:** Knowledge of network security, including firewalls, VPNs, encryption, and SSL/TLS protocols.

- Experience with IP addressing, subnetting, network design and Understanding of network protocols (TCP/IP, UDP, HTTP/HTTPS, DNS, DHCP).

- Familiar with routing and switching, OSI model, and network troubleshooting tools. (e.g.**ping**, **traceroute**, **Wireshark**, **netstat**).

- **Hardware:** Arduino, Raspberry Pi, microcontroller programming.

Soft Skills:

- Analytical thinking and problem-solving.

- Communication (written and verbal).

- Teamwork and collaboration.

- Excellent time management and organizational skills.

- Adaptability and eagerness to learn new technologies.

Professional Experience

Software Developer

Swahilipot Hub - May 2024- up to date

Skills: Django,python, NextJs, React, Javascript

- Develop and maintain software applications, ensuring functionality and performance.

- Debug, troubleshoot, and optimize existing code.

- Collaborate with teams on the design and implementation of web applications.

Software Developer

Mombasa Red Cross lab - September 2023- December 2023

Skills: Arduino, C++

- Developed a digital microscope as part of a group project, utilizing Arduino microcontroller programming and hardware integration.

- Collaborated with cross-functional teams to ensure seamless integration of hardware and software components.

Remote Software Developer

Microverse - May 2023 - Aug 2023

Skills: JavaScript, HTML, CSS

- Worked remotely on a full-stack web application project using HTML, CSS, and JavaScript.

- Collaborated with a global team using remote development tools like Replit.

Hardware & Software Maintenance Technician

- Responsible for the installation, repair, and troubleshooting of hardware components.

- Conducted network vulnerability assessments and provided solutions for improved network security

Projects

- **Electricity Billing System:** Using C language developed a system to automate electricity billing, calculate consumption, and generate bills.
- **School Management System:** Using C# and Visual Basic designed and implemented a school management system for tracking student attendance, grades, and performance.
- **Student Registration Web App:** Built a web application to allow students to register for programs, integrated with MySQL for database management.
  - **Tech stack**: Bootstrap |PHP |MySQL|
- **Collaborative Document Editor:** A real-time collaborative editor allowing multiple users to edit documents simultaneously.
  - **Tech stack:** Next.js|App write|Liveblocks|permitio.io |
- **Digital Microscope:**
  - **Tech Stack:** Embedded systems, IoT, Web Technologies.
  - **Description:** Worked with a team to develop a digital microscope for educational purposes, allowing remote observation and data collection.

  Key Features:

  - Live microscope feed with zoom functionality.
  - Data logging and cloud storage.
  - User access control for educational purposes.
- **Asset Management System (with Barcode Tagging):**
  - **Tech Stack:** Django, PostgreSQL, Next.js
  - **Description:** Developed an asset management system that enables organizations to track and tag assets using barcode scanning.

  Key Features:

  - API for asset tagging and retrieval.
  - User-friendly dashboard with search and filter functionality.
  - Secure authentication and role-based access.
- **Predictive System for Employee Retention:** Developed a predictive model to forecast employee turnover using machine learning algorithms.

- **Tech stack:** Python-Django (backend) Next.js (frontend)|Machine Learning (Scikit-learn, Pandas, Numpy)Algorithms like logistic regression, random forest and Gradient Boosting(XGboost,LightGBM, CatBoost), PostgreSQL.
- **Description**: Built a web-based system to predict employee retention using machine learning models.Integrated a dashboard for data visualization and filtering.

  Key Features:

  - Machine Learning model for retention prediction.
  - Data filtering and visualization dashboard.
  - Authentication (JWT, google/GitHub login).

Education

Bachelor of Science in Computer Science
Technical University of Mombasa, Tudor, Mombasa
September 2021– April 2025

Technical skills gained :

- **Programming and software Development -** Proficiency in languages like Python, JavaScript, C++.
- **Web Development -** Backend(Django, Node.js) and frontend(Next.js, React, Tailwind CSS).
- **Database Management -** SQL(PostgreSQL,MySQL) and NoSQL(MongoDB)**.**
- **Software Engineering and Agile Development -** version control(GIT), testing, CI/CD.
- **Modeling and Simulation -** Applying mathematical models to simulate real-world systems.
- **Data Structures and Algorithms -** Understanding of arrays, linked lists, trees, graphs, sorting, and searching algorithms.
- **Machine Learning and AI -** Basics of ML models,using libraries like TensorFlow and Scikit-learn.
- **Networking and Cybersecurity-** Basic Security principles, encryption, and ethical hacking.
- **Operating System and System Programming -** Working with Linux, memory management, file systems.
- **Cloud Computing and DevOps -** Basics of cloud platforms(AWS, Firebase) and containerization(Docker).

Soft skills gained:

- **Problem Solving and Critical thinking** - Breaking down complex problems logically.
- **Collaboration and Teamwork** - working on projects with peers and industry. professionals.
- **Communication** - Writing documentation, Presenting ideas, and explaining technical concepts.
- **Project Management** - Managing deadlines, prioritizing tasks, and handling multiple projects.
- **Adaptability and Continuous Learning** - Keeping up with new technologies and trends.

Kenya Certificate of Secondary Education

Oriwo Boys High School, Homa- Bay

January 2017 – April 2020/2021

Master-classes with Power Learn Project

REFERENCES

Dr. Mwakondo - COD

Mr.George Ouma