CALEB HABYARIMANA

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Professional Summary

- Multidisciplinary mechanical engineer with a strong foundation in lightweight structural design, FEA simulation, and CAD (SolidWorks – CSWA & CSWP certified).

- Proficient in front-end web development using React.js, Nextjs, Tailwind CSS, and Node.js with experience building dynamic, user-focused platforms.

- Proven leadership through peer mentoring, SolidWorks training, and research in sustainable automotive engineering solutions.

Work & Project Experience

SolidWorks Trainer & Peer Mentor – University of Rwanda
2023 – Present

- Led weekly SolidWorks tutorials for peers, boosting group competency and resulting in a 90% CSWA pass rate among attendees.

- Organized design challenges focused on IC engine models, improving practical understanding of FEA and design intent.

Web Developer – Personal Portfolio & Client Projects
2023 – Present

- Built a responsive portfolio website using React.js and Tailwind CSS, integrating project showcases and interactive forms.

- Developed a tour inquiry form and booking dashboard for a national park website, improving UX and enabling real-time engagement.

Design Engineer – Lightweight Automotive Structures Research
2024 (Final Year Project)

- Designed and analyzed a two-bar FEA model using MATLAB and ANSYS, optimizing materials for weight and performance.

- Investigated aluminum and steel properties under load, validating with numerical simulations and literature benchmarks.

Freelance Front-End Developer – Kivu Bike Tours Website
2024 – Present

- Created an intuitive UI for a tourism-focused platform using React, MongoDB, and Node.js, enhancing visitor engagement by 60%.

- Integrated Admin Dashboard functionality for multilingual and mobile-friendly access.

Education

BSc in Mechanical Engineering – Production Option
University of Rwanda
Expected 2025

- Focus: FEA, CAD, Sustainable Design

- Registration No: 222014 807

Certifications

- Professional Foundation certs.(ALX_AFRICA) - Jun 2025
- Certified SolidWorks Professional (CSWP) – Feb 2025
- Certified SolidWorks Associate (CSWA) – Nov 2024
- ALX Virtual Assistant Certificate – Nov 2024
- JavaScript Developer Certificate – 2024
- ALX_AICE Certificate – 2023

Technical Skills

Engineering:
SolidWorks, ANSYS, MATLAB, FEA & FEM, CAD Design, Fusion 360, AutoCad

Web Development:
HTML5, CSS, SCSS, React.js, Next.js, Tailwind CSS, JavaScript, Typescript, Python, Nodejs, SQL, Prism, Mysql, Express.js, DaisyUI, GitHub, REST APIs

Tools:
Justinmind, Figma, Google Workspace, Arduino (for mechatronics systems)

Volunteering Experience

SolidWorks Study Group Organizer – University of Rwanda
2023 – 2024

- Founded and led a SolidWorks-focused study group supporting students preparing for CSWA and CSWP certifications.

- Facilitated weekend workshops on mechanical modeling, design optimization, and assembly best practices.

- Coordinated group projects, including IC engine modeling and plastic bin design challenges, fostering real-world design thinking.

Technical Volunteer – Kivu River Tourism Platform
2024

- Volunteered as the lead front-end developer for a regional tourism project website promoting Karongi and the Kivu River.

- Implemented accessibility improvements, translation features, and responsive layouts to broaden platform reach.

Community Tech Support – Local Engineering Forum
2023 – Present

- Provide technical support and guidance on SolidWorks, FEA principles, and beginner programming through online forums and meetups.

- Created and shared self-paced learning content for under-resourced students pursuing CAD and simulation skills.

Hobbies & Interests

Mechanical Design Challenges

- I enjoy participating in mechanical CAD design competitions and hackathons. I successfully modeled a cone-shaped pedal bin for office use with smart weight restriction in SolidWorks.

- Regularly explore new SolidWorks features and benchmark models to improve efficiency and creativity in real-world mechanical design.

Web Development & Open Source Contribution

- Passionate about front-end development using React.js, Tailwind CSS, and Material UI.

- Developed and maintained multiple project websites, including tourism platforms and portfolio dashboards, with user-friendly UI/UX.

Languages

- **English** – Professional Working Proficiency

- **Kinyarwanda** – Native

- **French** –Simple understanding