CURRICULUM VITAE (CV)

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1. EDUCATION

Bachelor of Science in Computer Science
Dedan Kimathi University of Technology, Nyeri
Expected: December 2027

- GPA: 3.5+
- Thesis/Project: "Quantum-Resistant Encryption Simulator: Bridging Classical and Quantum Cryptography"
- Relevant Coursework: Quantum Computing Fundamentals, Advanced Algorithms, Cloud Architecture, Cryptography, Machine Learning, A.I, Operating Systems

High School Diploma
St. Georges Girls Secondary School , Nairobi
Graduated: December 2023

- Honors: School Math Lead, National Math Olympiad Qualifier, Head of Science Club

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2. RESEARCH EXPERIENCE

Undergraduate Researcher
Department of Computer Science, Dedan Kimathi University of Technology
September 2024 – Present

- Worked under Dr. Kamau on evaluating Grover's and Shor's algorithms on IBM Quantum and simulated NISQ (Noisy Intermediate-Scale Quantum) devices.
- Designed and executed experiments using Qiskit to measure error rates and performance variations across quantum hardware backends.
- Co-authored "Evaluating Grover's Algorithm Performance on NISQ Devices," submitted to IEEE Quantum Workshop (April 2025).
- Presented findings at the DeKUT Research Symposium (April 2025) and IEEE Quantum Technical Community meetups.

Research Intern
Quantum Computing Lab, Dedan Kimathi University of Technology, Nyeri

June 2025 – Present

- Developed Python-based tools to benchmark quantum circuit depth and gate fidelity for superconducting qubits.
- Collaborated with a team of 5 researchers to optimize error mitigation techniques, which improved circuit accuracy by 15%.
- Documented experiments, maintained lab notebooks, and contributed to weekly technical reports.

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3. PUBLICATIONS & PRESENTATIONS

Publications

1. Maureen Wanjohi, "Evaluating Grover's Algorithm Performance on NISQ Devices," IEEE Quantum Workshop (Under Review), 2024.
2. Maureen Wanjohi & Dr. Kamau, "Quantum-Resistant Encryption Simulator: A Comparative Study," DeKUT Research Journal, Vol. 2, No. 1, August 2024.

Presentations

- "Bridging Classical and Quantum Cryptography," DeKUT Research Symposium, April 2025 (Oral Presentation).
- "Introduction to Quantum Circuits and Grover's Algorithm," IEEE Quantum Technical Community Meetup, April 2025 (Workshop Session).
- "Workshop on Qiskit Basics," Quantum Sky Club, DeKUT, May 2025(Hands-On Demo).

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4. TEACHING & MENTORING EXPERIENCE

Teaching Assistant
Data Structures & Algorithms, Dedan Kimathi University of Technology

June 2025 – Present

- Conducted weekly lab sessions for 40+ students, creating problem sets on algorithm implementation and analysis.
- Held office hours, provided one-on-one mentorship, and assisted with grading assignments and exams.

Mentor
Quantum Sky Club, International
June 2025 – Present

- Guided 15 junior memberships through Python, quantum fundamentals, and Qiskit tutorials.
- Developed curriculum and interactive lessons for workshops, improving member retention by 35%.

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5. PROFESSIONAL EXPERIENCE

Student Developer
BSc Computer Science, Dedan Kimathi University of Technology
July 2024 – Present

- Designed and built web applications (React, Node.js) for campus events and departmental tools, reducing manual processing time by 40%.
- Implemented a cloud-based file sharing system on AWS S3 with access control policies for student research data.

Chair, IEEE Quantum Technical Community
IEEE Student Branch, DeKUT
June 2025 – Present

- Spearheaded launch of Quantum Technical Community, organizing 10+ events and attracting 300+ participants.
- Coordinated guest speakers from IBM Quantum and Google Quantum AI to present the latest developments in quantum technology.

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6. CERTIFICATIONS & QUALIFICATIONS

- **Qiskit Developer Certification** (IBM Quantum), May 2024
- **AWS Certified Cloud Practitioner** (Amazon), December 2024
- **Google Machine Learning Crash Course Certificate** (Google), August 2024
- **Quantum Education Certificate** ([Issuing Organization]), March 2025

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7. TECHNICAL SKILLS

- **Programming & Scripting:** Python, C++, JavaScript, Java, Q#
- **Web Development:** React, Node.js, Express, Next.js, Tailwind CSS, Bootstrap

- **Cloud & DevOps:** AWS (EC2, S3, Lambda), Docker, Git, Terraform, CI/CD Pipelines
- **Quantum Computing:** Qiskit, Cirq, IBM Quantum Lab, Quantum Simulators, Quantum Algorithms
- **Machine Learning & Data:** TensorFlow, NumPy, Pandas, SciPy, Matplotlib
- **Tools & Software:** GitHub, VS Code, Jupyter Notebooks, Jira, Slack

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8. LEADERSHIP & ACTIVITIES

- **Founder & SkyLead, Quantum Sky Club** (DeKUT)
  - Established a student-led quantum community; organized 25+ workshops; mentored 120+ members.
- **Chair, IEEE Quantum Technical Community (DeKUT Branch)**
  - Launched the community; coordinated guest lectures and open-source challenges; mentored 15 students.
- **Volunteer, Nairobi Quantum Meetup**
  - Assisted in event planning and technical demonstrations (June 2024 – Present)
- **Member, Association for Computing Machinery (ACM)**, DeKUT Chapter

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9. AWARDS & HONORS

- **2nd Place, DeKUT Quantum Hackathon** (Team Lead) – November 2023
- **Best Research Presentation, DeKUT Research Symposium** – April 2024
- **Dean's List, Computer Science Department** (Fall 2022, Spring 2023)
- **School Math Lead , St Georges Girls Secondary**– June 2021

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10. OUTREACH & SERVICE

- **Mentor, Qiskit Global Summer School Team** – April 2024 – August 2024
- **Organizer, Quantum Sky Community Hack Series** – May 2025 – June 2024
- **Reviewer, ACM Special Interest Group on Quantum Computing** – June 2025–Present

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