

ARISTHIDE NOBANZA

Systems Engineering | Intelligent Infrastructure | Cross-System Integration | Technical Training

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PROFESSIONAL PROFILE

Systems and infrastructure professional with more than 12 years of experience spanning mission-critical communications, embedded electronics, operational technology, infrastructure reliability, technical leadership, and workforce development. Progressed from hands-on electronics and field maintenance into lead technician, acting-supervisor, and Systems Training Instructor responsibilities. Combines practical systems experience with systems administration, cloud and workspace technologies, automation, digital twins, cross-system integration, cybersecurity operations, infrastructure automation, and human-centered engineering.

CURRENT FOCUS

- Systems Training Instructor for radio communications at WMATA, translating field experience and system behavior into classroom, laboratory, practical, and on-the-job technician development.
- Founder and Lead Systems Architect of the Communications Systems Engineering Platform (CSEP), integrating infrastructure architecture, behavioral simulation, digital twins, technical training, engineering observation, governance, and deterministic validation.
- Developing cross-system and cross-platform approaches that connect APIs, structured information, automation, and portable working environments across Windows, Linux, macOS, and virtual machines.

CORE CAPABILITIES

Systems Engineering & Architecture: Architecture, interfaces/dependencies, digital twins, behavioral simulation, scenario engineering, validation, governance

Cloud, Workspace & Cross-System Integration: AWS, Azure, Google Workspace administration, Google APIs, OAuth 2.0, Calendar/Sheets integration, application/data integration, workflow automation

Security Operations & Engineering Analysis: Python client/server workflows, Wireshark/PCAP, Kali Linux, Nmap, Wazuh, SIEM/HIDS, MITRE ATT&CK, controlled labs, defensive analysis

Communications & Intelligent Infrastructure: Mission-critical radio, distributed communications, fiber, CCTV, intercom, access control, fire alarm, environmental monitoring, operational technology

Cross-Platform Systems & Automation: Windows, Linux, macOS, virtual machines, VMware, PowerShell, Python, JavaScript/Node.js, Terraform, Git/GitHub, portable project environments

Training & Technical Leadership: Technical instruction, curriculum review, practical assessment, mentoring, acting-supervisor coverage, safety briefings, technical documentation

PROFESSIONAL EXPERIENCE

Systems Training Instructor, Radio Communications | WMATA | Washington, DC | 2026 - Present

- Building radio-communications subject-matter depth while supporting structured technician learning across classroom, lab, practical, and field settings.
- Reviewing technical content for accuracy, safety alignment, maintenance relevance, and clarity; converting complex system behavior into troubleshooting approaches and learning experiences.

Lead Communications Technician | Acting Supervisor | WMATA | Washington, DC | 2013 - 2026

- Led preventive and corrective maintenance, work prioritization, troubleshooting, safety briefings, crew coordination, and shift handoffs for mission-critical communications and operational technology.
- Supported radio, CCTV, intercom, passenger information, access control, kiosk, fire alarm, fiber, and network-dependent infrastructure; collaborated with engineering, IT, operations, and safety teams.
- Directed fire-alarm as-built installation and documentation across 94 stations and led multi-station CCTV outage recovery, including cross-department troubleshooting of fiber-path issues.
- Mentored technicians and new hires through hands-on walkthroughs, system explanations, safety expectations, and structured troubleshooting guidance.

Junior Analyst, UNICEF Programme Evaluation | Global Health Liaisons, LLC | Silver Spring, MD / Uganda | 2016 - 2017

- Supported evaluation of a UNICEF resilience and nutrition programme across seven districts; cleaned, transformed, reconciled, and analyzed health and facility datasets and supported CommCare field-data workflows.

Lead Electronics Bench Technician | Express Union | Yaounde, Cameroon | 2008 - 2011

- Led electronics diagnostics, repair, testing, quality assurance, and staff training; designed GSM-enabled intrusion-detection and executive communication prototypes using PIC microcontrollers.

SIGNATURE ENGINEERING WORK

Communications Systems Engineering Platform (CSEP) | Founder & Lead Systems Architect | 2026 - Present

- Architecting a layered engineering knowledge, simulation, training, observation, and analysis platform for mission-critical communications systems, with 50+ architectural components/frameworks.
- Models infrastructure dependencies, radio lifecycle and calls, roaming, resilience, train movement, symbolic ride tests, faults, and restoration while preserving explicit engineering scope and evidence boundaries.
- Built deterministic validation infrastructure with 826+ automated regression tests and structured evidence generation supporting repeatable engineering verification.
- Built with JavaScript/Node.js, PowerShell, HTML/CSS, JSON Schema, Git/GitHub, VMware, GNS3, Wireshark, Windows, and Linux using reviewed AI-assisted engineering workflows.

SELECTED SYSTEMS & TECHNOLOGY PROJECTS

EnviroLink Environmental Monitoring & Alerting System | Intelligent Infrastructure / IoT

- Designed an IoT monitoring platform integrating embedded environmental sensing, PIC18F97J94 and ESP8266 controllers, local status visualization, secure cloud telemetry, historical analysis, and automated alerting for infrastructure environments.

Household Hub | Embedded Linux / Cloud & API Integration

- Built and deployed a Raspberry Pi information kiosk integrating Linux administration, Node.js/Express, Google Calendar API, OAuth 2.0, PM2 process supervision, time synchronization, and a privacy-conscious human interface.

Cybersecurity Operations & Infrastructure Automation | Security Operations / Scripting / Infrastructure as Code

- Built controlled security-operations labs and custom Python client/server workflows; used Kali Linux, Nmap, Wireshark, Wazuh/SIEM, and defensive-analysis concepts, and automated Proxmox virtual-machine deployment using Terraform Infrastructure as Code.

Cross-System Information & Workflow Integration | Google Workspace / APIs / Automation

- Designed and maintained integrated workflows connecting Google Workspace services, structured data, calendars, spreadsheets, APIs, and automation to support planning, coordination, information management, and operational visibility.

AWS & Azure Cloud Infrastructure | Cloud Architecture / Systems Administration

- Developed AWS architecture experience across compute, networking, storage, databases, security, resilience, and EC2 application deployment; separately built a multi-region Azure environment with Windows Server, segmented networking, Entra ID, RBAC, monitoring, alerting, and centralized backup.

ADDITIONAL EXPERIENCE

Mechanical & Electrical Technician | Mastech Engineering | Washington, DC | 2012 - 2014

- Troubleshooted motors, control boards, sensors, transducers, air-handling units, cooling towers, boilers, cold rooms, and electrical controls; supported wiring, calibration, testing, and HVAC-control modernization.

Certified Nursing Assistant / Geriatric Nursing Assistant | Genesis HealthCare | Takoma Park, MD | 2012 - 2013

- Provided direct care, mobility assistance, safety monitoring, vital-sign support, documentation, and infection-control support, developing practical experience with human mobility, care environments, and safety.

EDUCATION & CREDENTIALS

Bachelor of Applied Science in Information Technology, System Administration | Ensign College (BYU System) | Graduated April 18, 2026 | GPA 3.715/4.000

Electrical Engineering, University of Dschang | Credential evaluated by SpanTran as equivalent to a U.S. Associate of Science in Electrical and Electronics Engineering | 68 U.S. semester credits

Selected credentials: System Administration; IT Professional; Technical Support Engineer; Professionalism; TestOut PC Pro, Hybrid Server Pro, Network Pro, Client Pro, Security Pro; Roadway Worker Protection Level 4.

PROFESSIONAL INTERESTS

Systems engineering | Intelligent and accessible infrastructure | Cross-system integration | Human-centered technology | Embedded systems | Communications systems | Cloud and workspace technologies | Cybersecurity & infrastructure automation | Systems architecture | Digital twins and simulation | Technical training | Reliability engineering

LANGUAGES

English: Fluent | French: Fluent, including professional and technical communication | Ghomala: Native / heritage language