Cornelius Bright Vordey

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SUMMARY

Data-driven DevOps and Cloud Engineer with a strong foundation in computational mathematics and applied research. Experienced in end-to-end data analysis and pipeline automation, turning complex datasets into actionable insights and reliable production workflows. Proven track record modernizing deployment platforms and accelerating releases (e.g., migration initiatives and CI/CD optimizations) across multi-cloud environments (GCP, AWS, Azure) with Kubernetes, Terraform, and secure artifact management. Research-oriented problem solver with teaching and mentoring experience, recognized for clear communication, cross-functional collaboration, and the ability to drive projects from design through delivery.

TECHNICAL SKILLS

- **Statistical expertise**- Regression Analysis, Classification, Clustering.
- **Cloud** - AWS, GCP, Azure, Oracle Cloud
- **CI/CD** - Jenkins, CircleCI, AzureDevops
- **OS** - Linux (Ubuntu, CentOS, Amazon Linux), Windows, MacOS
- Machine and Deep Learning Algorithms
- **Scripting** – Bash, Python, Groovy
- **Version Control system** - Git, GitHub, Gitlab
- **Machine Learning** - PyTorch, TensorFlow, BigQuery, DataFlow
- Apache Spark, Hadoop, Dask
- **Mathematical Computation** - MATLAB, Mathematica, Python.
- **Infrastructure as Code** - Terraform, CloudFormation, Google Deployment
- **Containerization and Orchestration** - Docker and Kubernetes
- **Programming** - Python, Java, R, Kotlin, SAS
- **Monitoring** – Cloud watch, Prometheus, Grafana, Node Exporter
- **Web Application and Microsevices** (JavaScript, Spring Boot)
- **Configuration Management** - Ansible, Chef and Puppet
- **Databases & Caching:** PostgreSQL, MySQL, Redis

EXPERIENCE

Ford Motor Company (Ford Pro Intelligence)   **Dearborn, MI**
DevOps Engineer - Full-time   *Jun 2024 – Present*

- Led a zero-downtime migration of artifact management from legacy **Nexus repositories hosted on on-prem and Azure-based VMs** to **JFrog Artifactory**, updating CI/CD pipelines to support dual-repository resolution during cutover and moving **200+ applications/microservices** and shared libraries without service disruption.
- Contributed to the organization-wide modernization initiative migrating microservices from **Pivotal Cloud Foundry (PCF)** to **Google Cloud Run**, refactoring deployment workflows and standardizing release patterns for container-based serverless operations and autoscaling.
- Reduced end-to-end deployment time from **15 minutes to <5 minutes** by redesigning Jenkins pipelines (stage optimization, conditional execution, and deployment-path routing), including fast-path releases for static apps to cloud storage and optimized Cloud Run deployments.
- Strengthened software supply-chain security by integrating automated dependency and license compliance scanning (e.g., **FOSSA**) and enforcing policy gates on pull requests and release branches to prevent non-compliant artifacts from shipping.
- Improved Kubernetes platform reliability by maintaining **Jenkins-on-Kubernetes** infrastructure (upgrades, configuration hardening, and operational support) and implementing automated health checks to detect failed/crashed pods and remediate unhealthy workloads to keep clusters stable.
- Provided ongoing operational ownership for CI/CD and release engineering, ensuring high availability of build/deploy systems, rapid incident response, and clear progress reporting through structured tracking, stakeholder updates, and migration dashboards.

Technology Excellence Services   **Remote, USA**
DevOps & Cloud Engineer (Contract)   *Aug 2021 – Jun 2024*

- Automated the provisioning and configuration of cloud infrastructure to ensure consistent and scalable deployments using Terraform which increased productivity by over 60%.
- Designed and maintained CI/CD pipelines for automating software testing, integration, and deployment, accelerating the development lifecycle.
- Implemented monitoring solutions and optimized system performance in the cloud, ensured proactive issue identification and enhanced efficiency which led to a 30% reduction in operational cost.

Oakland University (Department of Mathematics and Statistics)   **Rochester, MI**
Graduate Teaching Associate   *Aug 2021 – Jun 2024*

- Assisted in designing and delivering course content for undergraduate classes, contributing to the development of innovative instructional materials that enhanced student engagement and comprehension.
- Developed and delivered comprehensive lesson plans, effectively teaching Algebra and Calculus concepts to an average of 60 students each semester.
- Collaborated with faculty on research projects, co-authoring two papers presented at academic conferences, and contributing to the advancement of knowledge in the field.

Northern Arizona University (Department of Mathematics and Statistics)   **Flagstaff, AZ**
Graduate Teaching Assistant   *Aug 2019 – May 2021*

o Designed and delivered lectures, recitations, and assessments for Quantitative Reasoning and Precalculus Algebra, teaching and supporting **100 students per semester** over two academic years.
o Provided individualized and small-group tutoring in the Mathematics Laboratory, strengthening student understanding of **calculus concepts** and quantitative reasoning through targeted coaching and problem-solving sessions.
o Enhanced student engagement and learning outcomes by leveraging online teaching tools (virtual office hours, structured learning materials, and timely feedback), building strong communication and mentorship skills in both in-person and remote settings.

Vodafone Ghana   **Accra, Ghana**
Linux System Administrator   *Aug 2017 – Jul 2019*

o Managed user accounts and access permissions, while also developing and executing backup and recovery strategies to protect critical data and ensure business continuity in case of system failures or data
o Monitored Linux server for CPU, Memory, and Disk utilization for performance monitoring.
o Implemented strong security measures, conducted regular system maintenance, including updates, patch management, and security audits to ensure Linux systems' security and optimal performance.

National Health Insurance Scheme(Akatsi South District)   **Akatsi, Ghana**
Management Information Systems Engineer - Internship   *May 2017 – Sept 2017*

o Performed the installation, configuration, administration, and maintenance of Linux servers.
o Performed supportive administrative tasks by creating and managing users account, file permissions and password resetting.
o Monitored system performance and assisted in implementing performance tuning.
o Improved production of bio-metric National Health Insurance cards for the general public.

Zenith Plastics Company Limited Ghana   **Tema, Ghana**
Factory Worker   *May 2013 – Aug 2014*

o Increased production efficiency by 15% and reduced material waste by 10% through Lean Manufacturing and Six Sigma methodologies.
o Implemented rigorous inspection protocols, reducing defect rates by 20% and ensuring compliance with Ghana Standards Authority standards.
o Led cross-functional teams to troubleshoot production challenges and successfully launch new product lines on time with high quality.

EDUCATION

Oakland University   **Rochester MI**
Doctor of Philosophy in Applied Mathematical Sciences,   *Aug 2021 – May 2026*
Relevant Coursework: Numerical Analysis, Finite Element Analysis, Industrial Modeling, Operations Research, Real Analysis, Time Series Forecasting, Linear Models, Applied Statistical Methods

Northern Arizona University   **Flagstaff, AZ**
Master of Science in Mathematics,   *Aug 2019 – Aug 2021*
Relevant Coursework: Combinatorics, Dynamical Systems, Software and Data Modeling, Topology, Network Science and Differential equations, Multivariate Analysis

Kwame Nkrumah University of Science and Technology - KNUST   **Kumasi, Ghana**
Bachelor of Science in Mathematics,   *Sept 2012 – May 2016*
Relevant Coursework: Calculus, Linear Algebra, Computational Mathematics, Differential Equations, Statistics, Computing and Programming

CERTIFICATIONS

o AWS Certified Solutions Architect - Associate
o AWS Certified Cloud Practitioner
o Introduction to AI and Machine Learning on Google Cloud
o Google Cloud Launching into Machine Learning
o TensorFlow on Google Cloud
o Google Cloud Feature Engineering

PROJECTS

Multi-Cloud MLOps Platform (Data Ingestion + Secure Deployment) [AWS, GCP, Terraform, Kubernetes, CI/CD]

o Deployed a secure multi-cloud environment across AWS and GCP using Terraform, provisioning AWS S3 and GCP SQL with least-privilege IAM, and enabling cross-cloud service access for production-grade data and model artifact storage.
o Built a cloud-native application stack on AWS (VPC, public/private subnets, bastion host, ALB, and private app/database tiers), establishing a scalable foundation for ML services such as training jobs, model serving endpoints, and batch inference

workloads.

o Implemented DevOps/MLOps-ready workflows by containerizing services and deploying them on Kubernetes, integrating automated build/test/deploy pipelines and repeatable infrastructure patterns to support versioned deployments, reliable releases, and operational scalability.

IoT Sensor Device + Mobile Control System [C++, FreeRTOS Concepts, UART, MQTT, Android (Java/Kotlin), AWS IoT]

o Built a lightweight embedded system prototype in C++ implementing periodic sensor reads, debouncing logic, and a UART-based data path modeled after RTOS task scheduling patterns.
o Implemented MQTT communication to publish device telemetry to AWS IoT Core and receive command messages from the cloud.
o Developed a simple Android client (Java/Kotlin) to control device settings and display real-time readings, integrating Bluetooth/MQTT flows for end-to-end hardware interaction.
o Added fault-handling routines, timing checks, low-level debugging (serial logs, interrupts) to simulate embedded production workflows.

Hotel Booking Web Application [Java, Spring Boot, REST APIs, PostgreSQL, Redis, Kafka, Typescript, Docker, Kubernetes]

o Developed a full-stack hotel booking platform with JWT-based authentication, hotel search, reservations, and booking history.
o Built **REST APIs** in Spring Boot for authentication, availability checks, and transaction-safe booking logic backed by PostgreSQL.
o Added Redis caching for frequent hotel queries and used Kafka to publish booking events for async logging/analytics workflows.
o Added a lightweight Android test client to validate API behavior across mobile workflows.

RESEARCH AND PUBLICATIONS

Oakland University   **Rochester, MI**
Published Article   *Feb 2026*
o On Contact of a Beam and a DNC Obstacle

Oakland University   **Rochester, MI**
Published Article   *Nov 2025*
o Model and Simulations of Contact Between a Vibrating Beam and an Obstacle Using the Damped Normal Compliance Condition

Oakland University   **Rochester, MI**
PhD Dissertation   *Feb 2026*
o Dynamics and Vibrations of an Euler-Bernoulli Beam in Contact with Obstacles Using the Damped Normal Compliance Condition

Kwame Nkrumah University of Science and Technology   **Kumasi, Ghana**
Undergraduate Thesis   *May 2018*
o Macroscopic Traffic Flow Optimization at a Roundabout

Kwame Nkrumah University of Science and Technology   **Kumasi, Ghana**
Recipe of Continuous Functions   *Nov 2017*
o Journal of Mathematical Acumen and Research

VOLUNTEERING

Pycon Africa and Django Girls   **Ghana**
Mentor   *May 2015 – Aug 2019*
o Organized and led mentorship programs for high school students, providing guidance and support to foster academic and personal development.
o Taught high school students foundational programming concepts in Python, improving their coding skills and sparking interest in computer science.

Yale Young African Scholars Program Educators Conference   **Ghana**
Mentor   *Aug 2018*
o Mentored high school students and their teachers on educational opportunities and application processes for studying in the U.S., providing guidance and resources to facilitate their pursuit of international education.

+1 Life First Aid Group   **Ghana**
Volunteer   *May 2014 – Aug 2018*
o Delivered first aid at sports events and spearheaded awareness campaigns on blood donation and health-related issues, significantly engaging and educating students on the KNUST campus.