Dr. OLAF CAMES

**Enterprise AI Implementation Architect/Cybersecurity Architect**

### OpenAI Service, NVIDIA Accelerated Computing, RAG Financial AI, AI Risk Management NVIDIA Omniverse, iCloud / OCULUS / AZURE / GC /AWS / OSI / IBM-Q

ResearchGate LinkdIn WebSite

### Profile: 30+ years Information Technology Experience:

* 29+ years IT Security Architect, • 25+ years organizational change management• 30+ years developer, • 30+ years data-centric developer, • 28+ years project management experience, • 19+years Mobile Device Development experience, • Data & Analytics Azure Data Lake, Databricks and Lakehouse framework • 8+ years IBM SNA/SAA Architecture experience, • 24+ year UNIX (Linux, Ubuntu, Apache, AIX, Solaris, Silicon Graphics, SCO), • 21 years Java • 22 years .NET • 24+ years SQL, • 30+ years RDBMS, • 6+ years Complexity Scientist/Action Researcher, • 5+ years Python, • 7+ years microservices • 11+ years MS Azure Cloud/O365, • 5+ years AWS Cloud (S3), 5+ years IBM Q Cloud • 1+ year Google Cloud Platform (GCP) •4+ years IBM Q 20 QUBIT Superconducting computer programming in Open QASM (Quantum Assembly Language) • Quantum-Resilient Security - Migration to Post-Quantum Cryptography

Microsoft Certified Azure **DevOps Engineer** Expert, Microsoft Certified **Azure AI Engineer**, Microsoft Certified **Azure Data Scientist**, Microsoft Certified **Azure Solutions Architect Expert**, **Microsoft Certified PRO:** Designing and Developing Microsoft **Azure Applications**, ISO certified GDPR Practitioner, **Certified Ethical Hacker**, Certified Computer Hacking Forensic Investigator, MCSD for

.NET, **27+ Microsoft Certified Developer certification**, MIT certified: Quantum Algorithms for Cybersecurity and Optimization, People Management: Formal Leadership Education at the University of Liverpool (UK), Management School, **29+ Azure Migration Projects**, Languages: English, German, French, Dutch

**EMPLOYMENT/ENTREPRENEUR EXPERIENCE:**

**01/2000 – CURRENT**

Virtual Broadcasting Information Center (VBIC) LLC Member/Manager

Orlando, FL

# 12/1992 – 12/1999

Macronet GmbH CEO/CTO

Dusseldorf Germany

# 12/1988 – 11/1992

Malteser Hilfsdienst Program Manager/Director Cologne Germany

# 12/1984 – 11/1988

CameSoft CEO

**EDUCATION:**

### Doctor of Business Administration

* + University of Liverpool (UK)
  + 2011-2019

### MSc with distinction

* + University of Liverpool (UK)
  + 2006-2008

**Appointments**

## AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

### U.S. Federal

**National Policy Advisory Group (NPAG) Panel Executive - Quantum Computing & Cyber Security**

08/2020 – current

* National policy issues with standards component
* Executing the Executive Order establishing the National Quantum Initiative Advisory committee
* Evolution of quantum computing into a national priority
* Technology Landscape, with emphasis on standards, e.g. ISO-IEC/JTC1/SC22/WG14 Quantum computing, QED-C, ITU-T, IEEE, ETSIIETF, Cloud Security Alliance

## INTERNATIONAL COMMITTEE FOR INFORMATION TECHNOLOGY STANDARDS (INCITS)

### Serves as the U.S. representative to the Joint Technical Committee 1

08/2020 – current

* Serve as the U.S. representative to the Joint Technical Committee 1
* Co-editor of ISO/IEC JTC 1/WG 14 / ISO/IEC WD 4879 "Quantum Computing"
  + Liase with JTC1/SC7, JTC1/SC27, ITU-TSG17, ITU-TSG134, ITU-TFG QIT4N, IEEEP1913, IEEEP7130, IEEEP1731, ETSIISGQKD, TC Cyber WG QSC, CEN CENELEC/FGQT

## QUANTUM ECONOMIC DEVELOPMENT CONSORTIUM (QED-C)

### Voting Member - Federal strategy for advancing quantum information

03/2020 – current

* Federal strategy for advancing quantum information science and as called for by the National Quantum Initiative Act enacted in 2018
* Identifying and addressing gaps in technology, standards, and workforce
* Advisory to the Department of Energy's (DOE) National Laboratories
* Advisory to the National Institute of Standards and Technology (NIST)

 



**PROFESSIONAL EXPERIENCE (clients/customers of VBIC)**

# META (US/EU/CAN)

* **Metaverse AI Security Architect -**

**Meta Quest for Business ISV - Azure Dynamics Mixed Reality SP – Apple Developer (visionPro, iOS, tvOS)**

5/2023 – current

* + Develop and deployment of custom applications in NVIDIA Omniverse Cloud
    - on 4 RTX-enabled workstations
    - on virtual workstations in NVIDIA Omniverse Cloud
  + NVIDIA CUDA-X-Services
    - NVIDIA Inference microservices deployment streaming
      * Synthetically generating data
      * Augmenting general knowledge contained in a pretrained foundation model with synthetic data.
      * Injecting of synthetic data in custom models
      * Optimizing engines to use standard APIs
  + Enterprise RAG-based AI solution implementation
    - NVIDIA TensorRT API ecosystem
      * TensorRT-LLM
      * TensorRT Model Optimizer
      * TensorRT Cloud
    - NVIDIA Triton
      * Model deployment
      * Execution across workloads
        + LangChain
        + LlamaIndex
        + Llama 2
        + Milvus
        + -e5-large-v2
    - Rag Investment Analysis
      * Financial risks or opportunities Analytics
        + Environmental, Social, and Governance
        + Compliance
        + Market sentiment
        + Hidden risk discovery

Insights and assessment risks in synthetic financial data

Real-time & contextual

Thematic investment research

* + NVIDIA Studio utilization
    - With NVIDIA AI Foundry, NVIDIA Picasso and NVIDIA Edify
    - AI model training using the NVIDIA Edify model architecture
    - Development of new AI models generating images, videos, 3D assets, 360-degree high- dynamic-range imaging and physically based rendering materials from simple text prompts.
  + Sovereign AI Infrastructure build-up for
    - Deployment in NVIDIA OpenUSD via NVIDIA RTX
    - Integration of 3D Applications and Services into existing software tools for building AI simulation workflow systems
  + AI Security Risk Management via RMF(NIST) for sovereign AI
    - Appling RMF AI Playbook in NVIDIA AI Foundry, NVIDIA AI Enterprise and NVIDIA Omniverse

 



* + - Appling RMF AI Playbook for AI microservices on Oracle, Google Cloud, Azure, IBM Q, Oculus, and Apple cloud.
  + AI Compliance via combined Frameworks in Sovereign NVIDIA Omniverse Cloud
    - NIST AI Risk Management Framework (AI RMF)
    - OWASP AI Security and Privacy Guide
    - Microsoft AI Security Risk Assessment Framework
    - Google Cloud AI and ML Security Framework
    - App hosting/streaming on three Clouds
      * Microsoft Azure Cloud
      * NVIDIA Omniverse Cloud\
      * Apple Eco-System.
  + Databricks interoperability between cloud environments
    - Oculus – Azure
* Implementation of Structured Streaming Processing on Spark SQL

AI Governance implementation by enablement modelling

* + Business Transformation Advisory services
    - Patterned approach to move IT Security from classic Web2 cloud into
* Web3 business economy.
* Quantum-Resilient Security
* Post-Quantum Cryptography/Quantum Cryptography (NIS FIPS 203, FIPS 204, FIPS 205)
* Blockchain Engineering

(Solana/Rust)

* Solana wallet on Playground
  + Solana Rust build/deploy
  + Interact chain programing in JavaScript.
  + Solana as SPL Tokens metadata account association (NFT)
  + NFT distribution on the Solana blockchain (Metaplex SDK)
  + Minting NFT distribution from collection (Candy machine)
  + Uploading media/metadata files for a collection (Sugar CLI)
* Secure Spatial Computing Standardization across vendor proprietary devices in
  + AR
  + VR
  + MR
  + XR
  + OR
  + ER
* 3D Engine
  + CI/CD integration for rapid dApp production and deployment
    - Unity
    - Unreal
  + 8k/360/3D Video creation & transition into Animated Point Cloud
    - Premiere PRO
    - Mistika VR
    - DaVinci Resolve
  + 8k/360/3D Content Creation/Moderation
    - YouTube VR TV
    - Meta Quest TV
    - Vimeo Video Marketing
    - Event Marketing
    - Video Monetization
    - Employee Communication
    - YouTube VR TV
    - Meta Quest TV
    - Vimeo
* Web 3 Cyber Security implementation pattern replacing Web2 IAM with blockchain security
  + Avatar Identities
  + VR/AR 6DOF modelling
  + Transport layer AI controls
  + Identity sealing
* Decentralized app development – Web 2 LOB transitioning for operational expense removal
  + dApps
  + DeFi
  + NFTs
* Infrastructure set-up (Web3)
  + Ethereum
  + Solana (mobile Web3)
  + Helium (pay back pattern)
  + Oculus (Web3/Web 2 security integration (Oculus/Azure))
  + Photon (massive scaling of Web 3 identities)
  + dApp development (coding/deployment/operation) via
    - React
    - Node.js
    - Selenium
    - Three.js
    - C#
    - C++
    - Python
* Rearchitecting ofclassic IoT Hub (Azure/AWS) towards Digital Twins
  + Orchestration of mixed reality cloud services for holographic remoting
  + Transformation of physical environment, people, places, and things into custom Twin types
  + Definition of specialized vocabulary translating business into instantiated models within Digital Twins
* Microsoft Mixed Reality Solution Provider (Azure Marketplace Consulting)
  + HoloLens 2 integration in Microsoft Dynamics 365 Mixed Reality
    - Azure Dynamics Field Services (Mixed Reality Integration Pattern across vendor)
      * Azure Industrial Metaverse-as-a-service: 8- Wk Workshop – Microsoft Azure Marketplace
    - Purview AI Hub
      * PC & HoloLens2 3D model application development for Production Dataverse solution compatible with Dataverse version 800.3.0.1, 800.2.0.0, 800.1.0.1,

800.0.0.1

* + - * Purview Compliance by Code Automation
* web3 Key management operation for mitigating backdoor attacks (PKI)
* Meta Workplace/Workroom integration in Azure endpoint security (Defender for Cloud)
* Custom AR/VR metaverse application development
  + 3-D Programming (6DOF)
  + Cybersecurity Content and Device Moderation (HoloLens/Quest PRO)
* Onboarding
* Operation
* SIEM/SOAR integration
  + Regulatory Compliant 6DOF endpoint management across Vendor/OS
* HoloLens 2 (3D/3D)
* iOS (3D/2D)
* Android (3D/2D)
* Meta Quest Pro (3D/3D)
* HP Reverb G2 (3D/3D)
* Desktop (3D/2D)
* Web3 digital asset management
  + NFT Asset Creation
  + NFT Digital Assets Revenue Management

## WWT/MTB

### AI Cybersecurity Architect

10/2022 – 4/2023

* Regulatory Compliance Automation
* Design and implementation of Zero Trust security posture for AI workloads
* Implementation of built-in governance features
  + Integrations with
    - Azure AI Studio
    - Cognitive Services
    - Bot Framework
* Enterprise-Scale Cloud Cybersecurity Design Strategy: Pattern Development
* POCs
  + POC for Azure Analytics
  + POC for MS Purview
  + POC for Azure ARC
* Client staff skills readiness development
  + Trainings: Configuration of Azure Cloud native PaaS Services for Automated Scanning
  + Briefings:
    - Implementation of Azure Services audit scope fusing Azure, Dynamics365, Microsoft365, and Power Platform compliance
  + Demos:
    - Automation of real-time and ad-hoc Azure CSA STAR attestation Level 1 & 2
  + Assessments:
    - Automate risk reduction to the bank
    - Policy violation clean-up
    - Enterprise-Scale Cloud Cybersecurity Design Strategy: Pattern Development
  + Custom pattern development - Innovation strategy exploring the modernization option
    - Establish Cybersecurity and compliance guardrails via Azure Landing Zone
    - Cybersecurity Policies Pattern (PPP)
    - Cybersecurity Automated Routing Pattern (PARP)
    - Cybersecurity Enterprise-Scale Landing Zone Architecture Pattern (PLAAP)
    - Combination of PCTPC and PLAAP Pattern
    - Cybersecurity Kubernetes Pattern (PKP)
    - Cybersecurity Threat Intelligence Pattern

### General Motors (USA)

**Senior AI Architect (GM self-driving cars)**

07/2021 – 10/2022

* Azure Data Services
* Containerized AI/ML workloads transfer from GC AI/ML into Azure AI/ML
* Azure Arc-enabled Kubernetes ML Pipeline SOPs development
* Multi-tenant Kubernetes Analytics
* Compute 2 data ML pipeline reuse pattern across public clouds, datacenter, and Edge
* OSM coding of Azure MLPipelines across Azure RedHat OpenShift Service (ARO) and OpenShift Container Platform (OCP)
* Roadmap Prioritization
* Service Mesh Migrations Sync vis OSM
* Regulatory compliance CIS CSC, HITRUST 9.1, FIPA, FACTA, CFATS, PCI-DSS, NACHA

### CVS Health, USA

7

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### Enterprise AI Infrastructure Architect– Cloud Center of Excellence (CCoE) 02/2021 – 06/2021

* Enterprise PolyCloud Design Strategy
  + Google Cloud, MS Azure, Amazon AWS, IBM Q Cloud
  + Software Defined Cloud Interconnects (SDCI) Landing Zone Base Architecture
  + PolyCloud Defender Policies
  + Global Secured Transit Connectivity Path
  + Integration of Azure Key Vault as secrets store with a Kubernetes cluster (PKI)
    - Cluster API Azure
    - Google Kubernetes Engine
    - OpenShift Kubernetes Distribution
    - Canonical Kubernetes Distribution

### Morgan Stanley, NYC, NY

**Global Cloud Security Architect - Technical & Operational Risk Advisory**

03/2020 – 1/2021

* Cloud security frameworks and standards; NIST CSF, NIST SP 800-53 R4, NIST SP 800-171 R2, PCI-DSS v3.2.1, SWIFT CSP-CSCF v2020, UK OFFICIAL and UK NHS,

Microsoft Cloud Adoption Framework for Azure Foundation, Microsoft Cloud Adoption Framework for Azure Migration landing zone, ISO/IEC 27001: 2013, Australian, Government ISM PROTECTED, Azure Security Benchmark, Canada Federal PBMM, CIS Microsoft Azure Foundations Benchmark, DoD Impact Level 4, DoD Impact Level 5, FedRAMP Moderate, HIPAA HITRUST 9.2, IRS 1075, CPRA, GDPR.

* Security assessments of technology systems and processes to identify business risks and recommend remedial action based on established security standards or security best practices.
* Establishing a CCoE environment of engineering excellence and innovation.
* .
* Using proven agile tools to plan, track, and discuss work across teams via AZDO Boards, pipelines and repos
* Establish landing platforms for data transformation activities in Azure Data Factory, transforming raw data into predictions and insights at scale in Azure Databricks/Azure HDInsight
* Pattern the data analytics platform optimization for Azure Databricks SQL Analytics and Azure Databricks Workspace
* Geofencing service and mapping data storage, with location information hosted in Azure
* Design workflows and processes forklifting conventional Hortonworks Scala/Spark Juniper shell scripts into Azure machine learning workflows Databricks Runtime version 7.1, Scala 2.21, and spark 3.0.0, Azure Synapse Analytics & CLI
* Planning of an Enterprise Azure Spring Cloud fully managed service for Spring Boot apps

in secured W-VAN

* Establish audit and management compliance by securing workspace, training, and interference environments via Python SDK pattern
* Enterprise authenticating Terraform using Managed Service Identity, a Service Principal and a Client Certificate, and a Service Principal and a Client Secret
* Automate landing platform deployments with Terraform
* Design a secure infrastructure on Google Cloud Platform
* Use Google technologies to provide data protection
* Defining organizational structure and policies for Google cloud identity and access management
* Design Google Cloud Platform network security defenses, managed incident responses, and an address regulatory concern
* Creation of cloud RACI for multi-cloud (Azure, GCP, AWS) Identity and Access Management (IAM)
* Attaching IAM policies to GCP resources without recreating the VM
* Establish and run workloads on Google Compute Engine in Google virtual networking
* Design and create VPC networks, VPC network segmentation, VPC firewall rules restricting access to instances, and static routes to forward traffic to a specific destination
* Establish repeatable GCP console and the GCloud pattern for the creation of custom Linux and Windows Server virtual machine
* Definition of metadata tag firewall rules for compute engine instances and VPC peering
* Design of cross regional load balancing via global SSL/TCP proxy load balancer for UDP ingress services traffic
* Realization of dynamic Virtual Private Network connection between Google VPC subnet and on-premises network via IPSEC protocol and GCP Cloud Router
* Architecture and design of multi-Cloud workflow SD-WAN cloud gateways with Google Cloud, Azure Cloud, and AWS
* Automate landing platform deployments with Azure Golang: core Azure SDK for Go, Blob Storage Azure SDK for Go, File Storage Azure SDK for Go, Storage Queue Azure SDK for Go, Event Hub Azure SDK for Go, Service Bus Azure SDK for Go
* Review the security posture of projects involving SaaS, PaaS, or IaaS and recommend steps towards the secure usage of Cloud Technologies
* Identify areas of risk on projects where security requirements cannot be fully addressed in the project's required time frame.
* Document and present those risks to senior business, IT, and Security team members.
* Identify areas of security the firm to invest in to improve IT security.
* Design Azure Bot Service hosting and publishing bot in Azure interacting with computer applications in a conversational way using text, graphics, or speech
* Migrating from Snowflake to BigQuery
* Integration Architecture for ADFv2 with source/sink in Azure Snowflake
* Design of PolyCloud Azure Key Vault Secrets Provider (PKI) extension to fetch secrets into Arc clusters from Arc connected Kubernetes cluster
  + Cluster API Azure
  + Google Kubernetes Engine
  + OpenShift Kubernetes Distribution
  + Canonical Kubernetes Distribution

### Fordham University, NYC, NY

**Deputy Team Director ASCR (Advanced Scientific Computing Research)**

03/2019 – 08/2020

* + **Technical lead for Quantum AI Synthetic Intelligence**
    - **Azure/Quantum Hybrid engineering**
    - **Algorithms development for and coding in Azure**
      * Azure Notebook/Python programming, Azure Data Factory, Azure Data Lakes, Azure Functions, Azure Data Bricks, Azure Stream Analytics, Azure Sentinel Log Analytics, Azure Machine Learning, Azure Logic Apps, Azure DevOps Pipelines, Kafka, Scala, Storm, Azure Event Hubs, Azure IoT Edge

Accenture - Business & Integration Arch Sr Manager, Accenture Technology - Tampa, FL

## IBM Q – QUANTUM INFORMATION SCIENCES DELIVERY LEAD

07/2018 – 02/2019

## APPLIED QUANTUM INFORMATION SCIENCES DELIVERY LEAD

AT&T Consulting Services – Atlanta 09/2017 – 06/2018

## GDPR GAP ANALYSIS & AZURE GDPR COMPLIANCE DEMONSTRATION

Walgreens – Deerfield, IL 04/2017 – 09/2017

### Global Cloud Security Principal Architect

DTCC – Tampa, FL 05/2016 – 04/2017

### Enterprise Information Security & Cloud Architect

NBA – Miami, FL 09/2015 – 05/2016

### Azure Infrastructure and Mobile Device Integration

Global Cloud Innovation Consortium – Seattle, WA 05/2015 – 09/2015

### Global Cloud Security Architect (Definition of Architecture/Governance/Auditing standards for the US/EU telecommunications & Retail industry)

ExxonMobil – Houston, TX 12/2014 – 04/2015

### Global Lead Cloud Architect (Definition of Global Oil&Gas Industry Security/Performance standards)

Crowe – Chicago, IL 10/2014 – 12/2014

### Identity & Access Revamp into Cloud Identities

Unisys – Philadelphia, PA 12/2013 – 10/2014

### Internet-Scale Architect (Global Identity & Access Manager - Bigdata Unified Identity Management (UIM) handling via Windows Azure)

IRS – Texas Comptroller of Public Accounts, Austin, TX 02/2013 – 11/2013

### Internet-Scale Architect (Bigdata Audit Data handling via Windows Azure (Cloud))

Department of Transportation, Raleigh, NC 09/2012 – 01/2013

### SharePoint 2010-2013 Architect (Bigdata Identity Management via .NET / Azure (Cloud))

12/2011 – 09/2012

### Internet-Scale Architect (Bigdata Document Management via .NET / Azure (Cloud))

Microsoft Consulting Services– **Ernst & Young, Cleveland, OH** - Global Anywhere 08/2011 – 12/2011

### Internet-Scale SharePoint & Cloud Architect (Bigdata Audit-Security handling in real-time)

InterGlobe Technologies, Global, anywhere (Gurgaon, Chennai, Mumbai, Manila, Middlesex, Atlanta) 06/2011 – 07/2011

### Internet-Scale SharePoint- Cloud Architect (Audit/Security handling for Global Data Privacy compliance)

Microsoft Consulting Services USA - - Fidelity Services, Boston, MA - Anywhere 10/2010 – 05/2011

Dow Jones, Princeton, NJ 07/2010 – 10/2010

### SharePoint 2010 Project Architect:

Capgemini USA General Motors & Family Dollar Inc Detroit, MI & Charlotte, NC 01/2010 – 06/2010

### SharePoint Project Architect:

Manatee County Bradenton, Fl 10/2009 – 12/2009

### Sr. SharePoint Architect:

Erie, Ins Erie, PA 07/2009 – 09/2009

### Enterprise SharePoint Solution Architect:

International Monetary Fund (IMF) Washington DC, & Orlando, FL 03/2009 – 06/2009

### Enterprise SharePoint Architect:

Logica Brussels BE, Frankfurt Germany, London UK, Amsterdam NL, and Orlando, FL 09/2008 – 09/2009

### Integration Practice Lead – Security Architect:

Limited Brands Columbus, OH 05/2008 – 09/2008

### Chief Architect – MOSS 2007 & WSS 3.0 Implementation:

Exxon Mobil Global/Enterprise Houston, TX 09/2007 – 05/2008

### Design Lead Global/Enterprise Knowledge Management via WSS/MOSS/.NET

Emerging BioSolutions (USA, Lansing, MI, Rockville, MD Gaithersburg, MD, Wokingham, UK, Martinsried, Germany

Singapore, and Malaysia). 03/2007 – 09/2007

### Business Intelligence/SharePoint & Security Architect

T-Mobile USA Tampa, FL 07/2006 – 02/2007

### Development Coordinator/Developer/Chief Architect