## Summary

* 21 years’ experience as aSystem Engineerand Network Solution Architect in telecommunications.
* Seven years in Technical Sales and Solution Architecture within sales teams**.**
* Five years’ experience with consulting in Infrastructure migration methodologies and techniques to support application and data movements to AWS, Azure, and Google Cloud services.
* Desire to influence and provide strategic thought leadership for monetization of Machine Learning and Artificial Intelligence in cloud based solutions.

## PROFESSIONAL EXPERIENCE

## Nokia, Naperville, IL 2018 – Present

**Director, Customer Solution Architect (Full-Time)**

* Responsible for sales and solutions strategies to deliver multi-access edge computing (MEC) at web scale and developing migration strategies for applications on infrastructure as a service in far edge cloud data centers.
* Driving customer workshops directly with the sales team on resolving technical blockers for evolution of real time 5G services to Kubernetes managed containers.
* Leading development with team on a Python based API/SDK for DMTF Redfish remote provisioning and management capability for large cloud data centers. Developed SOW and provided deliverables 100% on time.
* Recent ML/AI Learning Workshops (2018)
  + Machine Learning Studio to Build and Test a Classification Model
  + Using R Studio for Geographical Visualization and Hierarchical Clustering
  + Deep Learning using TensorFlow and Keras
  + Using TensorFlow/Keras in Jupyter Notebook for Sentiment Analysis

**Director, Solution Development 2016 - 2018**

* Worked directly with sales team to create a cloud platform success strategy and network function virtualization roadmap for Verizon Wireless.
* Developed workshops and strategies identifying key technical challenges for Verizon content media based organization to migrate to cloud based wireless infrastructure architecture.
* Developed prototype solution from scratch leveraging public cloud and Docker containers for data infrastructure project to capture live streaming IoT media flows to monitoring and storage services while maintaining network performance for video.

**Environment:** Kubernetes, OpenStack, Linux, Docker, GiT, JiRA, GiitHub, virtualization, containers, cloud native design, Amazon Web Services, ETSI-NFV, CNCF

**Consulting** , Plainfield, IL **2003 -Present**

* Private consulting for small medical field companies in helping to migrate enterprise infrastructure management for their data collection and data communication architectures to the public cloud.

**Environment**: Microsoft Azure, Linux, Python, eFAX API Dev, GiT, sFTP, encryption, NoSQL, npm, yarn, brew, Visual Code, Vagrant, Chef.

**Alcatel-Lucent**, Naperville, IL **2008 – 2016**

**Principal Director Wireless Chief Technical Officer, 2012 – 2016**

* Experience in open source Cloud-based API’s and virtualized Linux containers for network intensity mapping and network analysis to discover optimal cell placement for cost versus performance improvements in live data networks.
* Leveraging Linux containers to create data analysis container on Microsoft Azure™ to deliver cloud-based solution for machine learning analysis.
* Created end to end strategic Use Cases for LTE data services by showing customer how to optimize the combination of available features resulting in increased revenue capability and improved user experience for wireless users.
* Achieved over 30% metric improvements with wireless networks through Big Data analytics and machine learning by using PySpark in a Hadoop container cluster to process data lake information.

**Solutions Architect, 2008-2012**

* Led international development team in Bangladesh, India using AGILE and Scrum development techniques to deliver IBM Rhapsody model driven project for CDMA networks 1.5 times faster than traditional process delivery without quality tradeoff.
* Prototype development and network modelling for feature optimization.

**Environment:** Microsoft Azure, PySpark, Hadoop, Agile SCRUM methodology, Vagrant, Docker, Python, Visual Studio, GiT, MongoDB, Redis, NoSQL, MATLAB, Visual Studio, CoreOS, Python-Pandas.

**Lucent Technologies,** Naperville, IL **1999 – 2008**

**Chief CDMA/EVDO Architect, 2004 -2008**

* Designed packet data hardware architecture and multi-carrier allocation technology in 3G EVDO wireless system resulting in 3x bandwidth improvement over current 3G architectures.

**UMTS/GSM Architect, 2000-2004**

* Mastered expertise in IP and ATM protocol inter-working resulting in improved efficiency and data network transformation. Designed complex hardware architecture for emerging wireless networks.

**System Engineering, 1999-2000**

* Team leader of IP Telephone projects including vendor management and technical specifications, standards based interface work (H.323, SIP protocols), and OAM&P issues resulting in early adoption of VoIP.

**Environment:** Linux (Red Hat/CentOS, Ubuntu), Solaris, ATCA, ePCI, 3GPP, 3GPP2, ETSI

## SKILLS

Cloud Architecture, DevOps CI/CD Tools, AGILE Development, Leadership, Teaching, Persuasive argumentation, Customer Engagement, Global Team Experience. Research and Invention, Artificial Intelligence, Machine Learning. Workshop and Pitch Development, 3GPP LTE and 5G, Far Edge Data Center evolution, Cloud infrastructure migration.

## CERTIFICATIONS AND ACCOMPLISHMENTS

Distinguished Member of Technical Staff Award in May 2010 Alcatel-Lucent Technologies

IEEE Member; IEEE ComSoC Member; IEEE Local Chicago Member

Advanced Sales Negotiating Skills Certification, Value Based Selling Business Case Creation Certification

5G System Architecture Level 3 Certification, Kubernetes Deployment Workshop with Google and ReactiveOps, Keras TensorFlow Workshop

**PATENT AWARDS**

* “Method and system for opportunistic delivery of less-than-best-effort application data over communication networks” Patent number 10033820
* “Method for Machine to Machine Communications” Patent number 9729516
* “Quality Of Service Level In Broadband Communications Systems” Patent number 7652990
* “IP Packet Access Gateway” Patent number 7068598
* “Portable Wireless Gateway” Patent number 7346025

**RESEARCH EXPERIENCE**

**Cognitive Visual Systems Incorporating Stereopsis**. Ph.D dissertation using machine learning algorithms based on artificial neural networks and using that representation in a object recognition scheme.

**Job Shop Scheduling with** **Genetic Algorithms**. Evolutionary algorithms for machine learning.

**Pose estimation by Appearance based vision**. At Sandia National Laboratories, created computer

vision routines using machine learning techniques to detect object types based on shape.

###### EDUCATION

**North Carolina A&T State University,** Greensboro, NC. Ph.D. in Electrical Engineering.

**Purdue University**, West Lafayette, IN. M.S., in Electrical Engineering.

**Tuskegee University**, Tuskegee, AL. B.S. in Electrical Engineering.

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