RAKESH VIDYADHARAN

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Professional Expertise:

- Polyglot developer with expertise in C/C++, Go, Java/Groovy/Scala, JavaScript, Objective-C, Python and Swift
- NoSQL (Content, Document, Key-Value, and Timeseries databases) and RDBMS experience
- 26+ years of software engineering experience
- Full-lifecycle software development experience (architecture, design, implementation, testing, deployment and support)

Experience:

Wire Pulse, Inc.,   Chicago, IL   February 2023 to Present
Chief Technology Officer

- Single-handedly build, manage and operate cloud services and infrastructure for Wire Pulse.
- Developed custom clustered MQTT broker for IoT communications, REST APIs and OpenAPI specifications, daemon and ETL tasks as needed to support SAAS operations.
- Developed SSO (single sign on) and data management applications using Wt. Python behave driven playwright tests.
- Terraform for provisioning and maintaining cloud infrastructure on AWS.
- Set up security posture for AWS services.
- Championed and lead company through SOC 2 Type II attestation process.

Veritone, Inc.,   Costa Mesa, CA   August 2018 to February 2023
Principal Engineer

- Develop micro and nano services, GraphQL API, deployment platform for running AI engine workloads. Services developed in Go, Java, and Node.js.
- Develop MVP products, which later become full-fledged Veritone products (Track, Voice).
- Develop bespoke products for DOJ, US Navy, NASCAR.
- Port Veritone aiWARE stack from AWS to Azure and on-premise environments using Kubernetes and Docker swarm technologies.
- OpenFaaS and Kubeless serverless computing to replace AWS Lambda functions.

Wazee Digital,   Denver, CO   June 2017 to August 2018
Principal Engineer

- Micro and Nano services for cloud digital media management platform. Services developed in Java and Go.
- Platform built using NiFi, MongoDB, Redis, Docker, Kubernetes.
- Reporting services using DynamicReports.

Tempus,   Chicago, IL   March 2017 to June 2017
Senior Software Architect
Developed Custom FHIR server for storing Clinical records from partner hospitals and health care providers.

Gracenote,   Chicago, IL   August 2014 to March 2017

Senior Software Engineer

Develop real-time data update pipeline for transmitting changes from editorial systems and internal data sources (Sybase, PostgreSQL, Datomic, XML, JSON) to REST and Apache Avro/Thrift based web service API tier deployed on AWS cloud. Develop real-time customer specific update streams based on incoming real-time data streams. Multi-tier application developed in Scala, using Kafka/Confluent as the message queue and PostgreSQL/Redis as the persistence engines.

The data update system drives Comcast X1 platform and is slated to become the primary platform for other customers such as DirecTV, Dish, Time Warner, Apple, Google etc.

Intellectual Ventures,   Seattle, WA   April 2015 to November 2015

Consultant

Develop application for Arduino platform to transmit air quality data gathered using Sharp GP2Y1010AU0F Optical Dust Sensor to Sidecar cloud API. Develop custom authentication and authorisation libraries (embedded C++) necessary to publish sensor data to Sidecar.

The University of Chicago Press,   Chicago, IL   April 2009 to July 2014

Senior Application Developer

- Developed Single Sign On application and REST services for use by the online versions of "Scientific Style and Format", "The Chicago Manual of Style" and the account management applications. Migrated various systems to Magnolia content management system.

- Developd JIRA plugins to migrate PERL based Submission Manager process tracking application to JIRA.

- Developed new website for UCP using Magnolia CMS. Contributed documentation including source code to Magnolia Wiki based on custom modifications built for UCP. Developed custom background tasks to keep content in the JackRabbit repository in sync with various data sources – MS SQL Server database, MySQL databases, XML feeds, SOAP services etc. from various other divisions of the Press and the Library of Congress.

- Created XML manager desktop application used to generate web content for the Chicago Manual of Style Online product. Migrated CMOS Q&A content from XML files into Magnolia CMS.

- Migrated PHP based internal project tracking system to JSP and JasperReports.

Sans Pareil Technologies, Inc.,   Chicago, IL   January 2006 to April 2009

President & CEO

Founder, President & CEO of SPT[1]. Owner of SPT, a self-owned company that develops custom desktop, mobile and web applications for customers and also develops open-source applications and frameworks.

- Developed event management application framework for Applitite. The framework was used to build the official iPhone and Android applications for Chicago Blues Fest, Taste of Chicago, Chicago Jazz Fest, The VooDoo experience, New Orleans Jazz Fest etc. Developed database update REST service used to keep the application database in sync with the data management system.

- Developed iPad and iPhone application for Toyoda Machinery USA.

- Developed iPhone Sudoku game for Kamicom. Developed game webservice for distributing new Sudoku games and for managing game solution times submitted by users.

- Various Web 2.0 modules for Tribune Media Services using Google API, GWT, Echo, JDO, Lucene and Hibernate.

- Desktop applications for LSA Studies using Qt. Developed MongoDB based distributed data storage and access framework for use by all applications.

- Developed financial performance analysis software service for analysts of e-commerce websites.

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[1]http://sptci.com/

- Developed Clinical Leadership Database application for leading Pharmaceutical Industry client of PharmARC.
- Developed laboratory resource scheduling system and custom Radius Authentication server for Moraine Valley Community College.

Tribune Media Services,   Chicago, IL   June 2000 to December 2005
Senior Applications Developer/Core Tools

- Developed first version of TMS CoreLib middleware API that is used by all TMS inter/intranet applications for accessing TMS data stores (ODBMS, RDBMS, XML).
- Developed the TV Listings part of the NBC Winter Olympics 2006 site using the new architecture based on an **ODBMS**.
- Architected, designed and implemented move from a Relational Database Management System to a Object Database Management Ssystem. The migration resulted in performance increases ranging from 45–200 times that with an **RDBMS**.
- Architected, designed and developed client side data caching model using a variant of the DAO and Transfer Object patterns and an embedded database to offload load from the central database server.
- Architected, designed and developed a webservice for HP, that provided HP the ability to manage subscriber accounts via a secured communication channel. The webservices also supported direct subscription management functions designed to provide subscribers the ability to modify and manage their subscription.
- Architected, designed and developed the TV listings application and data management applications for NBC Olympics 2004.
- Architected, designed and developed TMS webservice designed to present Movie and TV data in XML format, conforming to schemas developed by TMS. Developed reference desktop clients and client API's using Qt/C++ to access the webservices.
- Developed the TMS standard XML schemas for TV and Movie related information.
- Architected, designed and developed a webservice for Philips iPronto/ProntoNeo/RC9800i devices. The webservice supports device authentication using HTTP-Digest, device activation, and dynamically generating customised TV Listings in an XML format conforming to the schema specified by Philips.
- Developed coding and documentation standards and application deployment processes.
- Architected, designed and developed the integrated Zap2it Toolkit Application which incorporates an enhanced Movie Toolkit Application (versions 1.0–3.0) and Internet Event Listings Application.
- Designed the Tribune Media Services Enterprise standard database model that is used by all editorial applications developed by TMS.

Net Quotient Consulting Group,   Chicago, IL   September 1999 to May 2000
Software Developer

- Built user interface applications and back–end databases using Java and Vignette StoryServer based on functional specifications for New York Life.
- Assisted in creating prototypes and functional specifications for software projects involving New York Life.
- Assisted in developing technical methodologies for engineering solutions to Web–based development problems at Net Quotient.
- UNIX system administrator for the Chicago office.

IMI Systems Inc,   Cincinnati, OH   February 1998 to September 1999
Consultant

- System Analyst, IBM Chicago, February 1999 to September 1999
  Consultant for IBM working at Blue Cross and Blue Shield Illinois. Responsibilities included:

* Network Analysis. Identified all the UNIX application servers (Solaris 2.5/2.6, AIX 4.3.x) that comprised the Blue Cross and Blue Shield Illinois computing environment.
* Software Analysis. Identified all software (local and third party) that were installed in the network, as well as all the locally developed databases (Oracle, Sybase, DB/2, Access).
* Tools Analysis. Analyse and evaluate third party data management and test automation tools such as File-Aid/CS and WinRunner 2000.
* Database Design. Designed and implemented a Project Tracking database in MS-Access to inventory results of the network and software analysis. Developed forms and reports to present summary of results for project tracking.
* Project Management. Oversaw Y2K testing efforts for all UNIX hardware and UNIX based software applications and database servers at Blue Cross and Blue Shield.

– Consultant, Convergys Corporation, March 1998 to December 1998
Y2K testing of the Precedent 2000 – a three-tier client/server Wireless Business Management and Billing system – software package developed by Convergys (formerly Cincinnati Bell Information Systems). Responsibilities included:
  * Desktop Application Development (65%):
    · Developed a multi-threaded Windows application using Qt/C++ for the Usage Processing Subsystem of the Precedent 2000 system.
    · Implemented numerous internal windows for viewing log files generated by the Precedent 2000 application.
    · Implemented a SQL editor for users to run their own queries or execute PL/SQL stored procedures, and save queries as menu items. The result set from the database was converted into a table model and presented in spread-sheet format.
  * Y2K Testing (35%):
    · Creating, selecting, editing and executing System and Y2K compliance test cases as they relate to the Key Business Processes and future releases of the Usage Processing Sub-System for Precedent 2000.
    · Develop PERL, OraPERL and Korn-shell scripts for automating repetitive testing tasks.

Awards:
– **Diamond Award 2005 - Technology** – Awarded by Tribune Media Services (TMS) for excellence in Technology.
– **Spotlight Award 2003 - Technology** – Awarded by Tribune Media Services (TMS) for excellence in Technology.

Skills:
– **Programming**: C/C++, Go, Java/Scala, Objective-C, Swift
– **GUI Development**: Qt, Cocoa/iOS UIKit, Android
– **Scripting**: Groovy, JavaScript, Python, SQL, Bourne/Korn Shell
– **DBMS**: MongoDB, Google Data Store, HBase/Hypertable, Oracle, PostgreSQL, MySQL, MS SQL Server, Java Embedded Databases, Java Object Databases, Java Content Repository
– **Serialisation Formats**: BSON, JSON, GraphQL, Apache Avro and Thrift, SOAP, XML Schema