**Michael Leung**

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**Technical Skills**

AB INITIO, UNIX/LINUX, Perl, Oracle, DB2, Sybase, NETEZZA, MySQL, C/C++, Shell Scripting, SQL, Hadoop, VERTICA

**Professional Experience**

**Fannie Mae, Herndon, VA Feb 2016–present**

**Data Warehouse Architect**

* Optimized application Loan Sourcing Data Mart (LSDM) using knowledge of Netezza architecture, Informatica and Oracle to improve performance as much as 80% (from UAT test results).
* Developed and tested CCFA (data preparation) migration from Oracle PL/SQL to Hadoop Hive on AWS EMR using Spark, beeline, HPLSQL, SAS, AWS EC2, RDS, Redshift, Qucksight and Netezza
* Automated data movement to build the UAT environment in Hadoop Hortonworks by using Metadata store from Source system in Oracle to general scripts running the SQOOP utility.
* Data validation and analytics using SAS Hadoop to compare and synchronize data sets between Hadoop and Oracle.
* Analysed and supported CCFA (dataprep) release 1.7 and 1.8 on data reconciliation and business logic using Netezza, Oracle, Perl, Shell scripting and Tableau.
* Responsible of designing training video and on-site training on Fannie Mae Learn system for new users, developers, architects and managers from Netezza fundamental to advanced concepts.
* Presented best practice of Netezza architecture for application designer / developers, and performed integration and Impact analysis with applications using Tableau and Informatica on Netezza Platform
* Provided assistance to latest design of Enterprise Data Warehouse with architect and application teams using dimensional, centralized staging & reporting models.
* Lead the project of integrating Multi-Family data on Oracle to Single Family on Netezza with virtualization / sematic layers using fluid query, NZSQL and Shell scripting / PERL
* Dual Load (IBM recommendation) using Informatica, NZLOAD and scripting for data replication solutions
* Engineered Loan Reporting for Single family Analytics by repurposed the Contingency Server using Replication service
* Disaster recovery and backup/recovery strategy and solutions for application on Production Platform
* Proposed and presented Logical Data Warehouse design using virtualization and data federation with data sources Netezza, Hadoop (AWS and Local) as data lake and Oracle
* Migrated Accounting Data Warehouse (securities, loans and commitment) from Oracle to Netezza platform and supported the on-boarding process of over 50 applications and hundreds of new users.
* Presented deep dive analysis to profile various applications from Online Analytic, Data Marts to Data Warehouse on Netezza Platform using Tableau and Excel.
* Application Optimization / query tuning on NETEZZA platform with CTAS, zone map and work-load management.
* Developed wrapper scripts for Netezza Loader (i.e. NZLOAD) and reporting using Shell scripting, PERL and NZSQL
* Proposed and Created the application COE approval process in the SDLC cycles from development, SIT, UAT to production in order to ensure the platform vitality
* Provided consultations and corroboration for projects including Loan Accounting Initiative, Fannie Mae Connect, LSDM, Credit Modelling Analytics (CMAP), Enterprise Risk Management, Pricing, Underwriting and Mortgage Analytics (PUMA), and Enterprise Data Warehouse.

**USDA NASS, Washington, DC August 2014–Dec 2015**

**Technical Leader on Software Engineer / Data Warehouse**

* Led a group of data analysts, statisticians and developers the migration of Project to Re-engineer and Integrate Statistic Methods 3.0 to Analytical databases in NETEZZA appliance
* Performed performance analysis, capacity planning, system sizing, maintenance and query tuning efforts for maximum optimization of the time-sensitive information on NETEZZA platform
* Designed and developed the next generation of Data Warehouse, ODS and Data Marts in dimensional model on NETEZZA and MySQL using NZLOAD, NZSQL and NZBACKUP utilities
* Created various ETL applications using PERL, Sybase, MySQL, Oracle, IBM Redbrick and NETEZZA
* Provided disaster recovery and backup/recovery solutions for NETEZA appliance
* Designed / Developed the Imputation projects with CAIR and SIGNEDIT
* Developed the consistency reports applications for comparisons between the Transactional and Analytical databases on NASS Enterprise Reporting Data Service portal
* Contributed in recommending and evaluating computer/system solutions, database platform / BI software for improving productivity, and analysing / reviewing strategic plan and system security policies
* Developed reports to interface to SAS and Integrated Data Analysis System for business analysts

**Fannie Mae, Herndon, Virginia December 2013–February 2014**

**Software Architect**

* Designed / Developed the next version of Credit Data Repository using AB-INITIO with Oracle PL/SQL and AUTOSYS
* Developed and Tested the Loan Selection Process and Metadata Framework
* Participated with cross-functional meeting for integration, analytics and testing
* Analysed and supported production issues

**Hewlett Packard November 2011–October 2013**

**Technical Consultant**

Projects: Enterprise Data Warehouse with Fannie Mae, WPS Health Insurance, AB-INITIO Lab/Graph Development CBT

* Led in design, development and testing of the Sub-Ledger Service (SLS) Automation in Fannie Mae using AB-INITIO, Oracle PL/SQL and AUTOSYS, which improved performance by 25%, collaborated with offshore team, HP China
* Researched / Developed Data Masking solutions using VERTICA, NETEZZA, AB-INITIO, scripting involving Data Warehouse design and ETL application.
* Migrated data from Oracle to NETEZZA using NZSQL and PERL
* Provided technical expertise for AB INITIO related questions to the trainee of the CBT, and managed Oracle database
* Developed scripts to generate queries based on the source-to-target mapping document, that saved 50% of time (WPS)
* Provided the procedure to generate test cases and scripts based on business requirements to verify the functionalities of the Data Warehouse in WPS

**TERADATA at American Express, Phoenix, Arizona March 2011 – August 2011**

**Senior Developer / Data Warehouse SME**

* Developed library of User-Defined Functions in C/C++ for TERADATA Enterprise Data Warehouse that would simulate AB-INITIO functions, i.e. allow users to read information from external data files as though they were ordinary tables.
* Assisted in the POC (Proof of Concept) presentation to the customers
* Consulted and assisted users for their testing process in the environment of AB-INITIO and COBOL

**Fannie Mae Herndon, Virginia March 2009 – Feb 2011**

**Senior Data Warehouse / ETL Developer**

* Created financial reports of Fannie Mae mortgage portfolio, approximately 18 million loans, for Capital Market, Guarantee Assets Guarantee Obligations (GAGO) using SQL, PERL, Unix Shell scripts and C/C++
* Developed the Guarantee Financial Accounting System (GFAS) for Consolidation, which maintained mortgage security and delivered required values to record accounting transactions in general ledger
* Designed and developed the interface module to create/submit accounting requests to SLS (Common Sub Ledger System Service) to generate Sub Ledger and General Ledger records, using AB-INITIO, Oracle and Perl technologies
* Reviewed applications for other teams through the SDLC (Software Development Life Cycle) process to conform to corporate standards utilizing best optimization practices
* Analysed functional requirements, prepared mapping documents. Performed data analysis for design specifications
* Provided data analysis and consultation for Portfolio Data Service (PDS) / Financial Modeling (FMA) using various technologies including PERL, AUTOSYS, AB-INITIO and Oracle
* Performed Impact Analysis and Integration testing

**Network Solution Herndon, Virginia May 2008 – Feb 2009**

**Enterprise Data Warehouse Architect / Database Administrator**

* Recreated TERADATA Data Warehouse architectural environments for Integration and Testing using UNIX (Solaris)/Linux, upgrading to V2R6, increasing performance by 50%.
* Deployed production applications in corporate change control environment with Agile Methodology
* Provided quantitative analysis on the production data warehouse in TERADATA (using BTEQ manager), and designed proactive policy of accessing capacity and performance to support various market modelling.
* Performed various database administrative functions using BTEQ, FastLoad, MultiLoad, FastExport utilities. Database backup and recovery strategy, performance tuning for both TERADATA and Oracle databases
* Designed and developed WEB statistics portal to analyse data collected from heterogeneous servers providing accurate information to sales and customers, using PERL, AWK and Shell Scripting.
* Developed the data model (Data Dictionary, Data Flow) for the Marketing Data Model (MDM) application.
* Supported the INFORMATICA Data Warehouse applications

**SM Consulting Linthicum, Maryland Jan, 2008 – March, 2008**

**Senior Technical Consultant**

* Delivered the next generation sales application database aiming to increase flexibility, functionalities and scalability. Implemented based on a business paradigm involving MS Access and Oracle.

**Fannie Mae Washington, DC Feb, 2006 – Dec, 2007**

**Senior Software Developer**

* Migrated EME (Enterprise Meta Environment) for Guarantee Business System (GBS), a division with annual budget **of** $400 million to a new environment, using custom Perl application.
* Developed Adjustable Rate Mortgages application in the highly available distributed system, Accounting Data Warehouse (Oracle), providing analytical information for business teams using AUTOSYS as the scheduler.
* Certified AB-INITIO with Oracle on Solaris environment for the entire corporation.
* Developed (RECON) validation projects to reconcile data quality for the Single-Family, Multi-Family, Hedge-Fund and eCommitOne projects in Accounting/Finance Data Warehouse
* Created and built triggers and stored procedures in Oracle for the Process Execution System.

**Time Warner / American Online Dulles, Virginia 2004 – 2006**

**Senior Data Warehouse / ETL Developer**

* Received the "Making the Difference Award", and was presented to me by Mark O Gara, Senior Vice President. It was in recognition of outstanding performance and contributions to AOL IC & BT Ops/SES
* Designed and developed the next generation of Enterprises Data Warehouse (EDW), from Data Modeling design to documentation: ERD, Data Dictionary, Data Flow Diagrams, using AB-INITIO, NETEZZA
* Migrated Database Applications from Redbrick to NETEZZA Data Warehouse, and Oracle. Optimized and Maintained ODS databases in Oracle, DB2 and Informix
* Developed Finance reporting applications using PERL, UNIX Shell Scripting, AUTOSYS and AB-INITIO.
* Coordinated projects and led a 6-man IS team for EDW
* Optimized EDW and improved its performance as much as 400%. (One process improved from 4 hours to 30 minutes to complete.) Reduced numbers of failures for each EDW cycle by more than 50%
* Provided critical training with over 1,000 hours of well-organized sessions to the India offshore development team

**MANTECH International Alexandria, Virginia 2003 – 2004**

**Technical Consultant**

* Earned company’s Performance Award after less than one year’s service.
* Developed procedures for the database conversion to convert the Retail Revenue Management system for KhiMetrics in Scottsdale, Arizona and the Enterprise-to-Enterprise system for VIACORE in Irvine, California with hundreds of stored procedures / functions on AIX from Oracle to IBM DB2.
* Provided consultation on the Financial applications for E\*TRADE in CA using DB2 UDB, TERADATA and AB-INITIO.
* Created User-Defined Functions (UDF) in C/SQL to replace the Oracle packages, i.e. UTL\_FILE, DBMS\_OUTPUT.
* Reduced validation time 50% for database conversion (Oracle to DB2) by developing effective testing scripts in PERL

**American Online Reston, Virginia 1999 - 2002**

**Senior Software Developer**

* Designed database architecture for a new authorization system on Oracle platform, combining techniques in projecting demand, usage analysis, collecting requirements, and data modelling.
* Developed the corporate authorization system, SOI (Sphere of Influence), in C/C++, PERL and IPC programming (pipes, sockets and message queues). SOI controlled access to resources on 5000+ servers.
* Reduced networking downtime to less than 5% by creating/modifying various server/slave TCP/IP applications.
* Improved the password verification system by identifying bottlenecks and increasing its scalability and flexibility.

**Eclipsys Gaithersburg, Maryland 1998 - 1999**

**Application Software Engineer / Analyst**

* Developed interface applications using Oracle PL/SQL, PERL to improve reliability, efficiency and usabilityfor various document imaging systems (i.e. laboratory, face sheet and nursing notes) and real-time data movement using TCP/IP (HL7) interfaces for ADT (Admission Discharge Transfer system) transcription and electronic medical records.

**C&F Enterprise Newport News, Virginia 1995 - 1998**

**Database/Software Team Leader**

* Created the new Invoice/Account database application in C/C++ and INGRES 4GL/SQL.
* Coordinated projects and led a four-men IS team.
* Developed ETL applications in C, PERL & SQL for EDI transactions (i.e. 810, 850 and 856)

**Education**

B.S., Electrical Engineering, Virginia Tech, Blacksburg, Virginia