

Summary

- Over 25 years of expertise in **Data Engineering, Big Data Technologies, Artificial Intelligence, Machine Learning, and Data Analytics**. Proven experience in building scalable data pipelines, developing AI-driven solutions, and delivering large-scale projects for government and commercial clients.
- Worked on several strategic projects for the Internal Revenue Service, including Clean Energy, Return Review Program, Office of Chief Procurement Officer, Selection and Workload Classification and Analytics Database Support
- Proven track record in being a trusted advisor to clients and cultivating relationships.
- Spearheaded IT projects from initiation to successful delivery, ensuring timely, within-budget, and resource-efficient outcomes.

Technical Skills and Tools

- Databricks, AWS, Greenplum, PostgreSQL, Python, Tableau, SQL Server, FICO Blaze Advisor, Unix, JIRA

Professional Experience

Arbee Systems Inc., Washington DC

2012-present

IRS Clean Energy Data Analytics, Database and Analytics SME

October 2024 – May 2025

IRS Clean Energy Program empowers taxpayers to efficiently claim credits while ensuring transparency and minimizing fraud

- Designed, developed and optimized ETL workflows using Delta Lake and Databricks notebooks to get data from source to target, provisioning a unified denormalized dataset enabling business analysts with high performance self-service reporting database
- Performed detailed data analysis and developed data mapping between EDP-BMF source and target databases based on legacy IDRS attributes
- Collaborated with infrastructure teams to manage Databricks clusters and data storage on AWS.
- Leveraged cloud best practices for scalable, reliable data transformation workflows with AWS as the hosting platform.
- Developed and managed interactive Tableau dashboards for several Clean Energy programs
- Developed design documents for each phase detailing architecture, dependencies, target state, testing and validation, and deployment plan.

Technical Environment: Databricks, Tableau, Bitbucket, AWS, Jira

IRS Return Review Program, Lead Database Administrator

August 2021 – October 2024

Return Review Program (RRP) is a high-volume mission critical system to prevent tax fraud.

- Provided expert knowledge and experience in utilizing and optimizing the core capabilities of Greenplum.
- Managed a team of DBAs to lead database activities for RRP project that included database performance monitoring, automation scripts, building deployment processes, change management processes, troubleshooting, configuration management processes and best practices.
- Developed capacity plan to address the growing demands of workload and usage.
- Worked closely with ETL and Post ETL teams to extract and load large volumes of data from multiple systems.
- Participated in developing strategy to transition from Greenplum version 5 to 6.
- Monitored database performance to ensure system health and maximum availability.

Technical Environment: Greenplum, Greenplum ETL/ELT tools, PostgreSQL, pgAdmin, DBeaver, DCA, IBM ELM

- Led a team of Report Designers, Business Analysts, DBAs, and Testers at the IRS Office of Chief Procurement Officer (OCPO) to support Digital Acquisition Procurement Reporting and Tracking for the COVID-19 project.
- Designed several visually appealing and interactive dashboards for OCPO senior leadership to answer key procurement questions related to workload, expiring contracts, shopping carts, fund expirations etc.
- Developed dashboards using advanced Tableau features including calculated fields, parameters, table calculations, data joins, data blending, dashboard actions and integration with R.
- Developed, trained, and validated machine learning models in R.
- Built interactive Tableau dashboards using model output, enabling stakeholders to explore and interpret results visually for actionable insights.
- Developed best practices dashboard creation, data refresh, version control, data extraction, and migration.

Technical Environment: Tableau Desktop, Tableau Server, Oracle, R studio

Selection and Workload Classification (SWC) is a web-based system built on a Business Rules Engine to run models and filters against disparate taxpayer databases to identify compliance risk and productive workload for Large Business and International (LB&I) examiners.

- Developed IRS ELC documents, including Requirements Plan, Rules Repository, Simplified Design Specification Report, Project Tailoring Plan, Configuration Management Plan, and Business Process Modeling.
- Led a cross-functional team of Developers, DBA, Rule writers, and Testers to implement multiple releases from start to finish and deployed to production.
- Developed and maintained a repository of Requirements, Capabilities, Rulesets, and Rules with traceability.
- Developed strategies and best practices for business rule harvesting, rule discovery and rule modeling.
- Developed detailed project plan, identified, addressed, and communicated project risks, dependencies, and impediments.
- Led development from requirements to implementation of new Data Analytics and Reporting System, using SQL Server, Tableau and SharePoint technologies replacing old BusinessObjects Reporting System.
- Designed interactive dashboards and stories in Tableau showing rule hit trends using features such as calculated fields, parameters, data joins, dashboard actions, interactive maps etc.

Technical Environment: SQL Server, FICO Blaze Advisor, Tableau, Nintex, PostgreSQL, Greenplum, IBM RTC

- Analyzed current state and created future roadmap for Electronic Discovery Case Management system.
- Conducted Joint Application Design sessions and developed detailed requirements for the new Case Management system.
- Redesigned database by normalizing and incorporating referential integrity to improve functionality and efficiency of the database application.
- Designed data model for complex reporting requirements.
- Created a detailed technical writeup describing challenges with the current application and recommendations for future state by providing pros and cons of each recommended option.
- Developed Tableau reports by restricting data for users using row level security and user filters.

Technical Environment: SQL Server, Microsoft Access, SharePoint Technologies, Nintex, InfoPath and Tableau

ADSS functions within the Database Support Branch (DBSB) in the Data Management Support Services of Enterprise Operations. It provides administration and operational support for the IRS Big Data Analytics Infrastructure Platforms, Greenplum Database Systems, and associated tools.

- Provided expert knowledge and experience in utilizing and optimizing core capabilities of the DCA & Greenplum in IRS environments and realign them with Project requirements.
- Provided recommendations and best practices from a technical and operational level, and performed the backup environment operational tasks including monitoring, incident, and problem management.
- Installed and upgraded Greenplum software and tools.
- Maintained 'cron' jobs, health check and daily maintenance work for Greenplum Data Computing Appliances.
- Supported backup and restore, create, copy, clone, move, or drop databases and deployed transmittals.

Technical Environment: Greenplum, Greenplum ETL/ELT tools, PostgreSQL, DCA, Data Domain, Tableau

Medicaid Enterprise Restructuring Project (MERP), IT Project Manager *July 2012 – June 2015*

State of Maryland Department of Health and Mental Hygiene's MERP project replaced its legacy MMIS (Medicaid Management Information System) claims processing system with a new system.

- Provided IT Project Management and leadership for the MERP Systems Team while closely working with DHMH MMIS Systems director.
- Analyzed and provided review comments for technical deliverables including system design documents for all sub-systems, data conversion plan, system architecture plan, system security plan and testing plan to ensure compliance with requirements, accuracy and completeness.
- Managed and led the effort to update current DHMH provider payment process to comply with the federally mandated CAQH CORE EFT/ERA requirements.
- Developed systems requirements for Fiscal Agent Operations RFP for the State of Maryland based on DoIT and MITA 3.0 Information Architecture (IA) and Technical Architecture (TA) guidelines.

Additional Experience

Deloitte Consulting, Washington DC	2011-2012
Booz Allen Hamilton, Washington DC	2005-2011
ActiveNetworks, Beltsville, Maryland	2003-2005
Fujitsu Consulting Portland, Oregon	2000-2003

Education and Certifications

- **Bachelor of Engineering:** Malviya National Institute of Technology (MNIT), India, 1993
- **Project Management Professional (PMP)**
- **Certified Scrum Master (CSM)**
- **Artificial Intelligence and Career Empowerment** certificate, University of Maryland, 2025
- **Databricks fundamental accreditation, 2025**
- **Deploy workloads with Databricks Workflows, 2025**
- **Build Databricks pipelines with Delta Live Tables, 2025**

Citizenship and Clearances

- U.S. Citizen
- US Treasury, IRS Minimum Background Investigation (MBI)