

## PROFESSIONAL SUMMARY

Senior Research & Data Analytics Professional with 21 years of experience in applied research, data engineering, and software development. Expert in translating complex analytical requirements into scalable technical solutions with proven track record leading cross-functional teams. Deep expertise in survey methodology, consumer insights, voting behavior, and advanced data analysis with experience serving major brands, organizations, and political candidates.

## KEY ACHIEVEMENTS AND IMPACT

### Technical Innovation

- Conceived, architected, engineered and deployed cloud-based redistricting software used by thousands of analysts nationwide
- Built the first collaborative and multi-actor contributed poll of polls used by the Democratic Party
- Developed RACSO platform for pollsters to fully administer research, analyzing bids from 1,200 vendors
- Engineered FLEEM system using Twilio API for thousands of simultaneous phone calls for IVR polls

### Data & Analytics

- Designed, architected and created multi-tenant data warehouse tracking decades of political, geographical, econometric change
- Modernized legacy ETL processes by implementing dbt and PySpark workflows, reducing processing time by 57%
- Developed advanced data pipelines for machine learning applications enhancing consumer segmentation and predictive modeling
- Introduced version control and Agile methodologies, improving project delivery timelines by 40%

### Research & Client Success

- Led multi-million dollar research projects involving sensitive consumer data with privacy compliance
- Managed teams of seven to eleven engineers, designers, analysts, and external stakeholders
- Delivered actionable consumer insights and market intelligence for political candidates and major organizations
- Built comprehensive survey operations platform from RFP through deployment

## CORE COMPETENCIES

**Research and Analytics:** *Survey Methodology* (Design, sampling, weighting, longitudinal analysis); *Statistical Analysis* (Regression modeling, clustering, segmentation, machine learning); *Geospatial Analysis* (Spatial clustering, boundary estimation, demographic mapping); *Data Visualization* (Tableau, PowerBI, d3.js, Matplotlib, Seaborn, choropleth mapping)

**Programming and Development:** *Python* (Django/GeoDjango, Flask, Pandas, PySpark, SciKit-Learn, TensorFlow); *JVM Languages* (Scala (Spark), Java, Groovy); *Web Technologies* (JavaScript, React, d3.js, PHP, HTML/CSS); *Database Languages* (SQL, T-SQL, PostgreSQL/PostGIS)

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**Data Infrastructure:** *Cloud Platforms* (AWS (EC2, RDS, S3), Google Cloud Platform, Microsoft Azure); *Big Data* (Apache Spark, PySpark, Hadoop, Snowflake, dbt); *Databases* (PostgreSQL/PostGIS, MySQL, Oracle, MongoDB, Neo4j); *Geospatial* (ESRI ArcGIS, Quantum GIS, GeoServer, OSGeo, GRASS)

## PROFESSIONAL EXPERIENCE

### Siege Analytics, Washington, DC | PARTNER 2005 - Present

#### Research & Data Analytics Leadership

- Conceived, architected, engineered and deployed cloud-based redistricting software used by thousands of analysts nationwide
- Developed and deployed custom research software that processed billions of consumer records for pattern analysis, fraud detection and entity resolution
- Built multi-tenant data infrastructure supporting concurrent access from diverse client organizations
- Led multi-million dollar research projects involving sensitive consumer data, ensuring compliance with privacy regulations

### Helm/Murmuration, Washington, DC | DATA PRODUCTS MANAGER June 2021 - May 2023

#### Big Data Analytics and Machine Learning

- Conceived and developed framework using Python, Pandas, and PostgreSQL to clean, validate, and normalize government data from Census, BLS, and NCES
- Built multi-tenant data warehouse and data lake using Snowflake, dbt, and AWS for longitudinal analysis across attitudinal, behavioral, demographic, economic and geographical dimensions
- Modernized legacy ETL processes by implementing dbt and PySpark workflows, reducing processing time by 57%
- Managed teams of seven to eleven engineers, designers, analysts, and external stakeholders using Agile methodologies and modern DevOps practices

### GSD&M, Austin, TX | ANALYTICS SUPERVISOR November 2019 - June 2020

#### Data Science and Business Intelligence

- Transformed the small data team into a big data engineering team, going from working on small datasets on laptops to using Hadoop Clusters and Hive on AWS
- Implemented spatial analysis and consumer segmentation methodologies that revealed new insights about existing customers
- Introduced version control and Agile methodologies to the data team, improving project delivery timelines by 40%
- Managed three analysts, mentoring them in advanced market research techniques and data analysis

### Mautinoa Technologies, Washington, DC | SOFTWARE ENGINEER August 2016 - February 2018

#### Data Science and Econometric Modeling

- Developed SimCrisis, a GeoDjango web application using Python, PostgreSQL/PostGIS, and NetLogo for multi-agent modeling and econometric simulations of crisis economies
- Built modular application using Python, Django, and GRASS accepting rules extensions for ethnic strife, different crisis types, supply failures, and disaster scenarios

- Conceived and built application using Python, Pandas, and Jupyter to predict how crisis economies respond to different humanitarian interventions
- Liaised with officers from International Federation of Red Cross, UNICEF, and Chaos Communications Congress to improve platform using Docker and Ubuntu

For a more detailed, full description of my experience, please visit my LinkedIn (<https://www.linkedin.com/in/dheerajchand/>) and Personal Site (<https://www.dheerajchand.com>).