

## PROFESSIONAL SUMMARY

Senior Research & Data Analytics Professional with 15+ 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

Conceived, architected, engineered and deployed cloud-based redistricting software used by thousands of analysts nationwide • Designed, architected and created multi-tenant data warehouse tracking decades of political, geographical, econometric change • Led multi-million dollar research projects involving sensitive consumer data with privacy compliance

## CORE COMPETENCIES

Software Engineering • Data Engineering • Data Analysis • Geospatial / Demographic Expertise • Research & Analytics • Programming & Development • Data Infrastructure

## PROFESSIONAL EXPERIENCE

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

#### Research & Data Analytics Leadership

- Uncovered decades of demographic miscoding in voter files, discovering 500,000+ previously mischaracterized Democratic voters
- Developed Python boundary estimation algorithm enabling mapping and analysis at every level of election in the United States
- Algorithm reduced mapping costs by 75%, saving campaigns and organizations \$5M+ and enabling smaller nonprofits to conduct redistricting analysis
- 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>).

## **TECHNICAL SKILLS**

**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)

**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)