

# DHEERAJ CHAND

## Research, Data Analytics & Engineering Professional

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### PROFESSIONAL SUMMARY

Research & Data Professional with 20+ years of comprehensive experience spanning applied research, data engineering, and software development. Expert in translating complex analytical requirements into scalable technical solutions. Proven track record leading cross-functional teams, architecting data platforms, and delivering insights that drive strategic decision-making across political, nonprofit, and technology sectors. Deep expertise in survey methodology, geospatial analysis, and building production systems for sensitive data applications.

### 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 • Research Management: Team leadership, methodology design, stakeholder communication

#### 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 • Statistical Computing: R, SPSS, SAS, Stata

#### 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 • DevOps: Docker, Git, CI/CD pipelines, automated testing, version control

### PROFESSIONAL EXPERIENCE

#### PARTNER

Siege Analytics, Austin, TX | 2005 – Present

##### *Data, Technology and Strategy Consulting*

- Conduct comprehensive quantitative and qualitative research studies for political candidates and organizations
- Architect cloud-based data warehouse solutions processing billions of records for electoral analytics
- Design scalable ETL pipelines using PySpark and dbt for large-scale geospatial and demographic datasets
- Develop custom analytical tools and algorithms for fraud detection and spatial clustering
- Manage complex client relationships across political, nonprofit, and technology sectors
- Lead technical architecture decisions for data-intensive applications and platforms

#### DATA PRODUCTS MANAGER

Helm/Murmuration, Austin, TX | 2021 – 2023

##### *Enterprise Data Platform Development*

- Led design and implementation of enterprise-scale multi-tenant data warehouse
- Managed engineering team of 11 professionals setting technical direction
- Modernized legacy ETL processes implementing dbt and PySpark workflows
- Overhauled survey methodology using Random Device Engagement and text messaging
- Developed data governance framework and quality control measures
- Built meta-analytical dataset for longitudinal analysis standardizing survey instruments

## ANALYTICS SUPERVISOR

GSD&M, Austin, TX | 2018 – 2019

### *Big Data Transformation and Advanced Analytics*

- Transformed small data team into big data engineering operation scaling to Hadoop clusters
- Managed accounts including US Air Force, Southwest Airlines/Chase, and Indeed
- Implemented spatial analysis and consumer segmentation methodologies
- Applied advanced statistical and ML techniques for behavioral clustering
- Introduced version control and Agile methodologies improving delivery by 40%

## SOFTWARE ENGINEER

Mautinoa Technologies, Austin, TX | 2016 – 2018

### *Financial Technology and Humanitarian Crisis Modeling*

- Conceived and engineered SimCrisis: GeoDjango application for econometric crisis simulations
- Collaborated with International Federation of Red Cross, UNICEF, and humanitarian organizations
- Implemented geospatial analysis for population impact assessment and resource optimization
- Developed agent-based modeling and statistical analysis systems for crisis prediction

## SENIOR ANALYST

Myers Research, Austin, TX | 2012 – 2014

### *Strategic Research and Survey Operations*

- Co-developed RACSO web application for comprehensive survey operations management
- Designed survey instruments for specialized voting segments and niche markets
- Introduced geospatial techniques enhancing market segmentation capabilities
- Managed RFP process analyzing bids from 1,200+ vendors for platform development

## RESEARCH DIRECTOR

Progressive Change Campaign Committee, Austin, TX | 2011 – 2012

### *Large-Scale Survey Systems and Method Development*

- Engineered FLEEM web application using Twilio API for thousands of simultaneous IVR surveys
- Led all aspects of survey design, implementation, data analysis, and reporting
- Developed new statistical methods for boundary estimation and geographic segmentation
- Created comprehensive data visualization solutions for complex research findings

*Additional experience and project details available on [LinkedIn](#)*

## KEY ACHIEVEMENTS AND IMPACT

### **Software Development and Innovation**

- ✓ Conceived and deployed BALLISTA redistricting software used by thousands of analysts nationwide
- ✓ Developed DAMON boundary estimation system using incomplete data without ML requirements
- ✓ Created SimCrisis econometric simulation platform for humanitarian intervention modeling
- ✓ Built RACSO comprehensive survey operations platform from RFP through deployment

### **Data Architecture and Engineering**

- ✓ Designed multi-dimensional data warehouse tracking decades of political and economic change
- ✓ Implemented scalable ETL pipelines achieving 57% performance improvement
- ✓ Developed fraud detection systems across multi-terabyte campaign finance datasets
- ✓ Created spatial clustering algorithms achieving 88% improved targeting efficacy

### **Research Impact and Recognition**

- ✓ Research analysis used in court cases for redistricting, housing, and community development
- ✓ Regular expert testimony on methodology for journalists and elected officials
- ✓ Built foundational polling consortium infrastructure adopted by major research organizations
- ✓ Pioneered integration of geospatial techniques into political and market research