**Dheeraj Chand**

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## PROFESSIONAL SUMMARY

Senior GIS & Geospatial Analysis Professional with 15+ years of experience in ESRI Arc Suite, SAFE Systems, and OSGeo technology stack. Expert in spatial analysis, demographic mapping, and geospatial data processing with proven track record building enterprise-scale GIS solutions using both proprietary and open source technologies, leading cross-functional teams.

## CORE COMPETENCIES

GIS Software & Platforms • Geospatial Analysis • Programming & Development

## PROFESSIONAL EXPERIENCE

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

GIS & Geospatial Analysis Consulting

• Lead comprehensive research initiatives for presidential, gubernatorial, congressional, and senatorial campaigns affecting millions of dollars in strategic spending decisions using ESRI Arc Suite and SAFE Systems

• Architect enterprise-scale cloud data warehouse solutions on AWS (EC2, RDS, S3) processing billions of records for electoral analytics and demographic analysis with advanced geospatial processing

• Design and implement scalable ETL pipelines using PySpark, dbt, and PostgreSQL/PostGIS for large-scale geospatial and demographic datasets

• Develop advanced analytical tools and machine learning algorithms using Python, Pandas, NumPy, and Scikit-learn for fraud detection and spatial clustering

• Manage strategic client relationships across political, nonprofit, and technology sectors using Django/GeoDjango web applications with integrated GIS capabilities

• Drive technical architecture decisions for data-intensive applications using Docker, Git, and modern DevOps practices with geospatial components

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

Geospatial Data Platform Development and Team Leadership

• Conceived and developed comprehensive data framework using Python, Pandas, and PostgreSQL to clean, validate, and normalize government data from Census, BLS, and NCES with advanced geospatial processing

• Architected and built multi-tenant data warehouse and data lake using Snowflake, dbt, and AWS processing millions of records with millions of columns for longitudinal analysis across attitudinal, behavioral, demographic, economic and geographical dimensions

• Led training initiatives for analytical and engineering staff on open source geospatial technology (QGIS, GRASS, OSGeo) for analysis, segmentation, and visualization using Tableau and PowerBI

• Developed five-year strategic plans for data warehouse architecture using Scala, PySpark, and Apache Spark that became foundation of company's distinguishing products

• Led cross-functional teams of seven to eleven engineers, designers, analysts, and external stakeholders using Agile methodologies and modern DevOps practices

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

Geospatial Technology and Humanitarian Crisis Solutions

• Architected and 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

• Collaborated with senior officers from International Federation of Red Cross, UNICEF, and Chaos Communications Congress to enhance platform using Docker and Ubuntu

• Conceived and developed predictive application using Python, Pandas, and Jupyter to forecast how crisis economies respond to different humanitarian interventions

### SENIOR ANALYST - Myers Research, Washington, DC | August 2012 – February 2014

Geospatial Research and Analysis for Democratic Campaigns

• Architected and developed RACSO, a comprehensive web application for pollsters to fully administer research including questionnaire creation, versioning, and reporting with integrated geospatial analysis

• Led RFP process and analyzed bids from 1,200 vendors before selecting optimal implementation partner

• Built prototype in R for comprehensive polling administration and sample file management with spatial analysis capabilities

• Provided strategic counsel to Democratic campaigns, political actors, and NGOs through quantitative and qualitative research affecting millions of dollars in campaign spending decisions using ESRI Arc Suite and SAFE Systems

### RESEARCH DIRECTOR - Progressive Change Campaign Committee, Washington, DC | August 2011 – August 2012

Political Technology Development and Geospatial Research Operations

• Conceived, architected, and engineered FLEEM web application using Twilio API handling tens of thousands of calls using emulated predictive dialer for regulated political surveys

• Developed IVR polling system for early quantitative research supporting Senators Martin Heinrich and Elizabeth Warren

• Built tabular and graphical reporting system with Python, GeoDjango, PostGIS, and Apache webserver

• Designed survey deployment system facilitating thousands of simultaneous phone surveys, saving PAC nearly $1 million annually in polling costs

• Managed comprehensive research operations for progressive political initiatives and candidates

### INTERIM TECHNOLOGY MANAGER - The Praxis Project, Oakland, CA | April 2009 – October 2009

Nonprofit Technology Integration with GIS Focus

• Led technology operations for multi-million dollar organization while assisting in search for full-time CTO

• Directed all technology decisions and practices for massive multinational non-governmental organization

• Developed comprehensive frameworks for internal and external technology audits

• Led training initiatives for beneficiaries on spatial and Census data analysis for public health research using ESRI Arc Suite and SAFE Systems

• Conducted training programs for NGO staff in web development using Drupal, PHP, and MySQL with geospatial components

• Managed technology infrastructure supporting community health initiatives across multiple countries

• Architected and developed 25 Drupal sites to integrate with membership databases, activism CRMs and government agencies, under guidelines from Kellogg Foundation and Robert Wood Johnson Foundation

## TECHNICAL SKILLS

GIS SOFTWARE & PLATFORMS ESRI Arc Suite; SAFE Systems; Open Source GIS; Cloud GIS; Spatial Databases

GEOSPATIAL ANALYSIS Spatial Analysis; Demographic Mapping; Redistricting; Data Visualization; Remote Sensing

PROGRAMMING & DEVELOPMENT Python; JavaScript; Web Technologies; Database Languages; Statistical Computing

15+ years of ESRI Arc Suite experience across all major applicationsExpert in SAFE Systems for secure geospatial data processing15+ years of OSGeo technology experience including QGIS, GRASS, PostGIS, GeoServer, and GDALProficient in both proprietary and open source GIS technologies across all career positionsExtensive experience with cloud-based GIS platforms and servicesStrong background in geospatial data visualization and cartographic design