dheeraj.chand@gmail.com
+1 2025507110
GitHub: github.com/dheerajchand

Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

PROFESSIONAL SUMMARY

Product-focused data scientist with 15+ years building systems that matter. Discovered systematic demographic coding errors affecting all Black and Asian-American voters, developed geospatial ML algorithms improving classification accuracy from 23% to 64%. Expert in translating technical solutions into business value.

KEY ACHIEVEMENTS AND IMPACT

Platform impact: Built redistricting system serving **12,847** analysts across 89 organizations • Real-time collaboration at national scale • Revenue generation: Delivered **$4.9M** additional revenue through optimization • **23%** conversion rate improvement

CORE COMPETENCIES

Programming and Development • Data Infrastructure • Machine Learning & AI

PROFESSIONAL EXPERIENCE

Siege Analytics | Partner - Austin, TX 2005 - Present

Data Science & Political Analytics

- Discovered systematic race coding errors affecting all Black and Asian-American voters, developed geospatial machine learning algorithms improving demographic classification accuracy from **23%** to **64%**
- Built redistricting platform used by thousands of analysts nationwide with real-time collaborative editing and Census integration
- Utilized advanced sampling methods to decrease survey margin of error from **±4.2%** to **±2.1%**, increasing voter turnout prediction accuracy from **71%** to **87%**, and ensuring survey results more closely reflected true population attitudes
- Trigonometric algorithm for boundary estimation reduced mapping costs by **73.5%**, saving campaigns and organizations **$4.7M** and enabling smaller nonprofits to conduct analysis
- Built real-time FEC analysis systems using Python, Pandas and PySpark to detect likely fraud, money laundering and financial crimes across billions of records daily, performing time series analysis on trillions of records in the political spending sub-economy valued over **$2** trillion

Helm/Murmuration | Data Products Manager - Austin, TX 2021 - 2023

Democratic Electoral Technology

- Led design and implementation of enterprise-scale multi-tenant data warehouse for geo-referenced demographic, econometric, and electoral data
- Managed engineering team of 11 professionals while setting technical direction for data architecture
- Modernized legacy ETL processes by implementing dbt and PySpark workflows, reducing processing time by **57%**

dheeraj.chand@gmail.com
+1 2025507110
GitHub: github.com/dheerajchand

Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

GSD&M; | Analytics Supervisor - Austin, TX 2018 - 2019

Advertising Analytics

- Restructured the Decision Sciences Department to scale capabilities from small-scale data analysis to comprehensive big data operations
- Implemented spatial analysis and consumer segmentation methodologies that revealed new insights about existing customers
- Advanced Statistical and ML techniques for segmentation and behavioral clustering

Myers Research | Senior Analyst - Austin, TX 2012 - 2014

Political Research & Analysis

- Designed comprehensive survey instruments for specialized voting segments and niche markets
- Developed sophisticated analytical products and reports that delivered actionable insights to clients
- Co-developed a web application to manage all aspects of survey operations, from instrument design to data collection and analysis

PCCC | Research Director - Washington, DC August 2011 - August 2012

Political Research & Data Analysis (FLEEM System)

- Conceived, architected, and engineered FLEEM web application using Twilio API handling tens of thousands of simultaneous phone 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 comprehensive tabular and graphical reporting system with Python, GeoDjango, PostGIS, and Apache webserver

KEY PROJECTS

National Redistricting Platform

About: Cloud-based GeoDjango platform for redistricting analysis with real-time collaborative editing and Census integration, used by thousands of analysts nationwide during 2021 redistricting cycle

Technologies: GeoDjango, PostGIS, AWS, Docker, React, Python, Redis

Impact: Reduced mapping costs by 73.5%, saving organizations $4.7M in operational expenses. Served 12,847 analysts across 89 organizations.

FLEEM Political Polling System

About: Web application using Twilio API for regulated political surveys, handling tens of thousands of simultaneous calls with predictive dialer functionality

Technologies: Twilio API, Python, Django, PostgreSQL, JavaScript, Apache

Impact: Saved PAC $840,000 annually in polling costs while significantly improving data collection efficiency

dheeraj.chand@gmail.com
+1 2025507110
GitHub: github.com/dheerajchand

Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

Geospatial Demographic Classification System

About: Machine learning platform for demographic analysis that discovered systematic coding errors and improved classification accuracy from 23% to 64%

Technologies: Python, Scikit-learn, PostGIS, GeoPandas, TensorFlow, AWS

Impact: Corrected demographic data affecting all Black and Asian-American voters, improved electoral prediction accuracy by 22%

TECHNICAL SKILLS

PROGRAMMING AND DEVELOPMENT *Python* (15+ years: NumPy, Pandas, Scikit-learn, TensorFlow, Django, Flask, GeoPandas, Asyncio); *R* (12+ years: Statistical modeling, ggplot2, dplyr, spatial packages (sf, sp), Shiny); *SQL/PostGIS* (15+ years: PostgreSQL/PostGIS, MySQL, complex spatial queries, optimization, database design); *JavaScript* (10+ years: React, D3.js, OpenLayers, Node.js, real-time applications, WebSockets); *Java* (8+ years: Enterprise applications, Spring framework, geospatial libraries (GeoTools)); *Other Technologies* (Shell scripting, Git, Docker, Kubernetes, infrastructure as code)

DATA INFRASTRUCTURE *Processing* (Apache Spark, PySpark, Dask, parallel computing, distributed systems); *Pipelines* (Airflow, dbt, ETL design, data quality monitoring, automated testing); *Storage* (Data warehousing, data lakes, columnar storage (Parquet), data modeling); *Streaming* (Kafka, Redis, real-time processing, event-driven architecture)

MACHINE LEARNING & AI *ML Frameworks* (Scikit-learn, TensorFlow, PyTorch, XGBoost, LightGBM); *Geospatial ML* (Spatial feature engineering, geographically weighted regression, spatial clustering); *Techniques* (Classification, regression, ensemble methods, time series, NLP, computer vision); *Validation* (Cross-validation, A/B testing, statistical significance, model interpretability)