Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

PROFESSIONAL SUMMARY

Senior data scientist and software engineer specializing in geospatial machine learning and large-scale demographic analysis. Developed algorithms that improved demographic classification accuracy from 23% to 64%, processed data across 178,000+ precincts, and built platforms serving thousands of analysts nationwide.

KEY ACHIEVEMENTS AND IMPACT

Discovered systematic race coding errors affecting all Black and Asian-American voters

CORE COMPETENCIES

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

PROFESSIONAL EXPERIENCE

Siege Analytics | Founder & Principal Data Scientist - Austin, TX 2012 - Present

Data Science & Political Analytics

- Identified decades of systematic demographic miscoding in national voter databases
- Developed geospatial machine learning algorithms that improved automated demographic classification accuracy from 23% to 64% (178% improvement)
- Applied meta-analytical approaches to detect and correct population-scale demographic errors
- Corrected systematic bias affecting millions of voters across all US electoral districts
- Built validation frameworks ensuring demographic accuracy across 178,000+ precincts

NGP VAN | Senior Software Engineer - Washington, DC 2012 - 2015

Political Technology & CRM Systems

- Maintained geospatial analysis tools for Java-based CRM system used by tens of thousands simultaneously
- Developed custom tile server enabling interactive visualization improving contact rates by 53% and segmentation accuracy by 88%
- Built advanced geospatial analysis capabilities using Java, JavaScript, MySQL, and TileMill
- Integrated mapping and visualization tools for political campaign data analysis

PCCC | Research Director - Washington, DC 2010 - 2012

Political Research & Data Analysis (FLEEM System)

- Conceived, architected, and engineered FLEEM web application using Twilio API
- Handled tens of thousands of simultaneous phone calls using emulated predictive dialer
- Built IVR polling system supporting Senators Martin Heinrich and Elizabeth Warren
- Developed survey deployment system facilitating thousands of simultaneous surveys

- Saved PAC $840,000 annually in polling costs through automated infrastructure

KEY PROJECTS

National Redistricting Platform (2020 - 2021)

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

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

Impact: Reduced mapping costs by 73.5%, saving organizations $4.7M in operational expenses

FLEEM Political Polling System (2010 - 2012)

Completely self-built IVR system using Twilio API that contacted tens of thousands of voters daily, replicated call center functionality to performance parity

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

Impact: Saved $840K in operational costs plus millions in avoided software licensing

Geospatial Demographic Classification System (2013 - 2016)

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

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

Impact: Corrected demographic data affecting all Black and Asian-American voters nationwide

Polling Consortium Dataset Meta-Analysis (2013 - 2016)

Comprehensive meta-analysis of polling data from tens of polling and mail firms with different methodologies and encoding systems

Technologies: Python, R, Statistical Analysis, Meta-Analysis, Data Standardization

Impact: Created $400M dataset that became foundation for modern electoral analytics, estimated current value exceeds $1B

EDUCATION

Bachelor of Arts in Plan II Honors - University of Texas at Austin (Austin, TX) | 2008

Honors: Interdisciplinary liberal arts program