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

Research & Data 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.

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

Data, Technology and Strategy Consulting

- Lead comprehensive research initiatives for presidential, gubernatorial, congressional, and senatorial campaigns affecting millions of dollars in strategic spending decisions
- 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
- Architect enterprise-scale cloud data warehouse solutions on AWS (EC2, RDS, S3) processing billions of records for electoral analytics and demographic analysis
- 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
- Drive technical architecture decisions for data-intensive applications using Docker, Git, and modern DevOps practices

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

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

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

Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

- 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

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

Financial 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

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

Quantitative and Qualitative Research for Democratic Campaigns

- Architected and developed RACSO, a comprehensive web application for pollsters to fully administer research including questionnaire creation, versioning, and reporting
- 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
- Provided strategic counsel to Democratic campaigns, political actors, and NGOs through quantitative and qualitative research affecting millions of dollars in campaign spending decisions

PCCC, Washington, DC | RESEARCH DIRECTOR August 2011 – August 2012

Political Research and Data Analysis (FLEEM System)

- 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

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

- 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
- Significantly increased data collection efficiency through automated calling infrastructure
- Managed comprehensive research operations for progressive political initiatives and candidates

Salsa Labs, Inc., Washington, DC | SOFTWARE ENGINEER January 2011 – August 2011

Political Technology Development

- Maintained and extended comprehensive geospatial analysis and reporting tools for Java-based CRM system used by tens of thousands of users simultaneously
- Developed custom tile server for Web Map Service (WMS) integration using GeoTools and OpenLayers
- Built advanced geospatial analysis capabilities using Java, JavaScript, MySQL, and TileMill
- Integrated mapping and visualization tools for political campaign data analysis interfacing with Government and Activism APIs
- Collaborated with political strategists to translate geospatial requirements into technical solutions
- Handled billions of records with millions of columns in high-performance CRM system

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

Nonprofit Technology Integration

- 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
- Conducted training programs for NGO staff in web development using Drupal, PHP, and MySQL
- 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

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

Dheeraj Chand
[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING
Austin, TX (30.2672°N, 97.7431°W)

Lake Research Partners, Washington, DC | PROGRAMMER April 2008 – December 2008

Political Polling, Focus Groups and Demographic Analysis for Democratic Campaigns

- Built the first collaborative and multi-actor contributed poll of polls used by the Democratic Party
- Developed system that later became the Polling Consortium Database at The Analyst Institute
- Worked on all aspects of questionnaire design, sampling, reporting and analysis for Congressional, Senate and Presidential elections affecting millions of dollars in campaign spending decisions
- Conducted statistical modeling and analysis using SPSS, ArcGIS, Quantum GIS, GRASS, Stata, OSCAR, PostgreSQL, PostGIS, and Oracle
- Pioneered integration of advanced mapping techniques into standard reports including choropleths and hexagonal grid maps
- Developed innovative approaches to visualizing demographic and market data for enhanced client understanding
- Trained staff on building Python tooling for report generation and analysis

The Feldman Group, Washington, DC | FIELD DIRECTOR August 2007 – April 2008

Political Polling, Focus Groups and Demographic Analysis for Democratic Campaigns

- Administered all quantitative and qualitative research operations for presidential, gubernatorial, congressional, and senatorial campaigns affecting millions of dollars in spending decisions
- Managed team of 6 research analysts and field staff for comprehensive survey fielding at multi-million dollar research firm
- Developed and implemented data warehousing solutions for efficient storage and retrieval of research findings
- Created custom reports and data visualizations based on specific client requirements
- Introduced mapping and geospatial analysis into standard reporting procedures
- Enhanced value of research deliverables through advanced analytical techniques using SPSS, OSCAR, PHP, and MySQL
- Trained staff on PHP/MySQL for data analysis and reporting systems

TECHNICAL SKILLS

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

Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

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)