dheeraj@dheerajchand.com
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GitHub: github.com/dheerajchand

Dheeraj Chand

[RESEARCH, ANALYSIS, ENGINEERING] → UNDERSTANDING

Austin, TX (30.2672°N, 97.7431°W)

PROFESSIONAL SUMMARY

Data scientist and software engineer with 15+ years building systems that matter. Discovered 500,000+ misclassified voters, saved organizations $5M+ through better algorithms, and built platforms used by thousands of analysts nationwide. Expert in translating complex analytical requirements into scalable technical solutions.

KEY ACHIEVEMENTS AND IMPACT

Discovered 500,000+ misclassified Democratic voters through data analysis • Handled billions of records with millions of columns for tens of thousands of users

CORE COMPETENCIES

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

PROFESSIONAL EXPERIENCE

Siege Analytics | Partner - Austin, TX 2020 - Present

Data Science & Political Analytics

• Lead comprehensive research initiatives for presidential, gubernatorial, and congressional campaigns affecting millions 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 processing billions of records for electoral analytics

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

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

Lake Research Partners | Senior Data Scientist - Washington, DC 2018 - 2020

Political Research & Analytics

• 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 in campaign spending decisions

• Conducted statistical modeling and analysis using SPSS, ArcGIS, Quantum GIS, GRASS, Stata, PostgreSQL, PostGIS, and Oracle

• Pioneered integration of advanced mapping techniques into standard reports including choropleths and hexagonal grid maps

• Trained staff on building Python tooling for report generation and analysis

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The Praxis Project | Technical Director - Oakland, CA 2015 - 2018
Technology & Data Infrastructure

• 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

• 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

Salsa Labs | Senior Software Engineer - Washington, DC 2012 - 2015
CRM & Data Platform 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

• Handled billions of records with millions of columns in high-performance CRM system

PCCC | Research Director - Washington, DC 2010 - 2012
Political Research & 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

• 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

The Feldman Group | Data Analyst - Washington, DC 2008 - 2010
Political Data Analysis

• 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

• Enhanced value of research deliverables through advanced analytical techniques using SPSS, OSCAR, PHP, and MySQL

KEY PROJECTS

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Ballista Redistricting Platform (2020 - Present)

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 75%, saving organizations $5M+ in operational expenses

FLEEM Political Survey System (2010 - 2012)

Web application using Twilio API for regulated political surveys, handling tens of thousands of simultaneous calls

Technologies: Twilio API, PHP, MySQL, JavaScript, Drupal

Impact: Saved PAC nearly $1 million annually in polling costs

Multi-tenant Data Warehouse (2015 - 2018)

Longitudinal analysis platform across attitudinal, behavioral, demographic, and geographical dimensions

Technologies: PostgreSQL, Python, Django, D3.js, Tableau

Impact: Processed billions of records for electoral analytics and demographic analysis

TECHNICAL SKILLS

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)

RESEARCH AND ANALYTICS *Survey Methodology* (Design, sampling, weighting, longitudinal analysis); *Statistical Analysis* (Regression, clustering, classification, time series); *Machine Learning* (Supervised/unsupervised learning, neural networks, NLP); *Geospatial Analysis* (Spatial statistics, cartography, remote sensing); *Research Management* (Team leadership, methodology design, stakeholder communication)

PLATFORMS *Tableau* (Advanced (Data Visualization, Dashboards, Server)); *Power BI* (Intermediate (Business Intelligence, Reports)); *Jupyter* (Advanced (Data Science, Notebooks, Visualization))

TRACK *Git* (Expert (Version Control, Collaboration, CI/CD)); *Jira* (Advanced (Project Management, Issue Tracking))