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 2.7M misclassified voters, saved organizations $4.7M 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 2.7M 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 2.7M 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 73.5%, saving campaigns and organizations $4.7M 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, enabling interactive visualization of CRM and Census data that improved 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 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 $840K in operational costs plus millions in avoided software licensing through completely self-built system
- 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 73.5%, saving organizations $4.7M 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 $840,000 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

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, creating unified analytical framework

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

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))