dheeraj.chand@gmail.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

Senior Data Analysis & Visualization Professional with 15+ years of expertise in statistical analysis, machine learning, and transforming complex data into compelling visual narratives. Expert in advanced statistical modeling, predictive analytics, and data visualization with proven track record designing comprehensive data analysis solutions, managing cross-functional teams, and translating complex data into actionable intelligence. Deep specialization in fraud detection, entity resolution, pattern analysis, and geospatial visualization with experience serving major brands, organizations, and political candidates.

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

Advanced Data Analysis and Statistical Modeling

- Developed and deployed custom analytical tools and algorithms using Python, Pandas, NumPy, and Scikit-learn for fraud detection and spatial clustering
- Developed parametric spatial clustering algorithms for voter analysis, resulting in 88% improved targeting efficacy
- Developed meta-analytical techniques to resolve ambiguous dimensions, resulting in discovery of 170% more viable targets
- Created fraud detection systems for campaign finance data analysis across multi-terabyte datasets
- Created comprehensive data visualization solutions that improved clients' understanding of complex research findings
- Built interactive data exploration capabilities and comprehensive reporting solutions
- Built multi-tenant data infrastructure supporting concurrent access from diverse client organizations
- Led multi-million dollar research projects involving sensitive consumer data, ensuring compliance with privacy regulations

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

Big Data Analytics and Machine Learning

- Conceived and developed framework using Python, Pandas, and PostgreSQL to clean, validate, and normalize government data from Census, BLS, and NCES
- Built multi-tenant data warehouse and data lake using Snowflake, dbt, and AWS for longitudinal analysis across attitudinal, behavioral, demographic, economic and geographical dimensions
- Modernized legacy ETL processes by implementing dbt and PySpark workflows, reducing processing time by 57%
- Developed advanced data pipelines for machine learning applications that enhanced consumer segmentation and predictive modeling capabilities
- Trained analytical and engineering staff on open source geospatial technology (QGIS, GRASS, OSGeo) for analysis, segmentation, and visualization
- Trained staff in advanced data visualization techniques using Seaborn, Matplotlib, and Tableau to improve client reporting
- Managed teams of seven to eleven engineers, designers, analysts, and external stakeholders using Agile methodologies and modern DevOps practices

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GSD&M;, Austin, TX | ANALYTICS SUPERVISOR November 2019 – June 2020

Data Science and Business Intelligence

- Transformed the small data team into a big data engineering team, going from working on small datasets on laptops to using Hadoop Clusters and Hive on AWS
- Implemented spatial analysis and consumer segmentation methodologies that revealed new insights about existing customers
- Introduced version control and Agile methodologies to the data team, improving project delivery timelines by 40%
- Managed three analysts, mentoring them in advanced market research techniques and data analysis with focus on visualization
- Rewrote the mission and offerings of the department and drafted a plan for how it would integrate with the rest of the strategy team
- Managed accounts for United States Air Force, Southwest Airlines/Chase and Indeed with comprehensive visual reporting

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

Data Science and Econometric Modeling

- 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
- Conceived and built application using Python, Pandas, and Jupyter to predict how crisis economies respond to different humanitarian interventions
- Liaised with officers from International Federation of Red Cross, UNICEF, and Chaos Communications Congress to improve platform using Docker and Ubuntu
- Applied agent-based modeling, statistical analysis and machine learning systems for humanitarian impact assessment
- Developed data models and processing pipelines for sensitive humanitarian data

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

Statistical Analysis and Research Methodology

- Designed comprehensive survey instruments for specialized voting segments and niche markets with visual reporting
- Developed sophisticated analytical products and reports that delivered actionable insights to clients through visualization
- Co-developed RACSO web application to manage all aspects of survey operations, from instrument design to data collection and analysis
- Introduced geospatial techniques to enhance market segmentation capabilities, providing clients with location-based consumer insights
- Standardized reporting methodologies to improve clarity and impact of research findings through visual communication
- Created data visualization tools for research presentations using advanced mapping and statistical visualization techniques

For a more detailed, full description of my experience, please visit my LinkedIn (https://www.linkedin.com/in/dheerajchand/) and Personal Site (https://www.dheerajchand.com).

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TECHNICAL SKILLS

STATISTICAL ANALYSIS & MACHINE LEARNING *Advanced Statistical Modeling* (Regression, Clustering, Segmentation, Machine Learning); *Predictive Analytics* (Time Series Analysis, Forecasting, Risk Modeling); *Data Mining* (Pattern Recognition, Anomaly Detection, Entity Resolution); *Machine Learning* (SciKit-Learn, TensorFlow, PySpark, Spark MLlib); *Statistical Computing* (R, Python (Pandas, NumPy), SPSS, SAS, Stata); *A/B Testing* (Experimental Design, Statistical Significance Testing); *Meta-analytical Techniques* (Dimensional Analysis, Ambiguity Resolution)

DATA VISUALIZATION & DESIGN *Interactive Dashboards* (Tableau, PowerBI, d3.js, Custom Web Applications); *Statistical Visualization* (Seaborn, Matplotlib, Plotly, Bokeh); *Geospatial Mapping* (ArcGIS, Quantum GIS, GRASS, OSGeo, PostGIS); *Choropleth Design* (Demographic Mapping, Hexagonal Grid Maps); *Web Visualization* (React, d3.js, OpenLayers, Leaflet, MapBox); *Presentation Design* (PowerPoint, Executive Briefings, Client Presentations); *Data Storytelling* (Narrative Development, Visual Communication)

BIG DATA & DATA ENGINEERING *Big Data Processing* (Apache Spark, PySpark, Hadoop, Snowflake, dbt); *Data Warehousing* (Multi-tenant Architecture, ETL/ELT Pipelines); *Cloud Platforms* (AWS (EC2, RDS, S3), Google Cloud Platform, Microsoft Azure); *Databases* (PostgreSQL/PostGIS, MySQL, Oracle, MongoDB, Neo4j); *Data Governance* (Quality Control, Privacy Compliance, Security); *Streaming Data* (Real-time Processing, Kafka Integration, Event-driven Architectures); *Data Pipeline Optimization* (Performance Tuning, Scalability, Monitoring)