Dheeraj Chand
Professional Title

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PROFESSIONAL SUMMARY

Senior Software Engineer with 21 years building scalable geospatial data platforms, web applications, and distributed analytical systems. Expert in full-stack development with deep specialization in Apache Spark/Sedona for big data geospatial processing. Proven track record architecting multi-tenant SaaS platforms used by thousands of analysts, implementing ETL pipelines processing billions of geospatial records, and building production systems integrating ESRI, OSGeo, and SAFE FME technologies. Strong background in both enterprise consulting and startup environments, with experience leading engineering teams and delivering mission-critical geospatial applications.

CORE COMPETENCIES

Programming & Development

Python: Django/GeoDjango, Flask, Pandas, PySpark, NumPy, SciKit-Learn • JVM: Scala (Spark/Sedona), Java (GeoTools, enterprise applications), Groovy • Web Technologies: JavaScript, React, d3.js, OpenLayers, jQuery, HTML/CSS • Database Languages: SQL, T-SQL, PostgreSQL/PostGIS, Oracle, MySQL • Statistical/Analysis: R, SPSS, NetLogo (agent-based modeling)

Big Data & Geospatial Platforms

Apache Spark: PySpark, Spark SQL, Sedona (geospatial), distributed processing • Geospatial Stack: PostGIS, ESRI ArcGIS, Quantum GIS, GRASS, OSGeo, SAFE FME • Cloud Platforms: AWS (EC2, RDS, S3), Snowflake, Google Cloud, Microsoft Azure • Data Engineering: ETL/ELT pipelines, dbt, Hadoop, Informatica, CDAP • Databases: PostgreSQL/PostGIS, Oracle, MongoDB, Neo4j, MySQL

Software Architecture & DevOps

Distributed Systems: Multi-tenant SaaS, microservices, API design, scalability • Geospatial Applications: Spatial algorithms, boundary estimation, clustering analysis • Web Applications: Full-stack development, RESTful APIs, real-time collaboration • DevOps: Docker, Vagrant, CI/CD (GitLab, GitHub), Celery, Airflow, nginx • Integration: Twilio API, WMS tile servers, CRM/DMP integration, OAuth

PROFESSIONAL EXPERIENCE

PARTNER & SENIOR SOFTWARE ENGINEER

Your Company Name, Your City, ST | 2005 – Present

Geospatial Platform Architecture and Full-Stack Development

- Architected and engineered redistricting platform serving thousands of analysts with real-time collaborative editing, Census integration, and legal compliance analysis
- Developed boundary estimation microservice using incomplete data for boundary estimation without machine learning, processing geographies at national scale
- Built scalable ETL pipelines using PySpark and Sedona processing billions of geospatial records with sub-hour latency requirements
- Implemented advanced spatial clustering algorithms achieving 88% improvement in analytical targeting efficacy for political applications
- Created fraud detection systems processing multi-terabyte campaign finance datasets with real-time alerting capabilities
- Led technical architecture decisions integrating ESRI, OSGeo, and SAFE FME technologies for Fortune 500 and political clients

Additional experience and project details available on LinkedIn

KEY ACHIEVEMENTS AND IMPACT

Geospatial Platform Development

✓ Architected redistricting platform used by thousands of analysts nationwide with real-time collaborative editing and Census integration

✓ Built boundary estimation system achieving accurate geospatial results without machine learning using advanced PostGIS algorithms

✓ Developed econometric simulation platform with NetLogo multi-agent modeling and web interface

✓ Created comprehensive survey platform managing complete research lifecycle with integrated geospatial market segmentation