

ANAND CHINNAKANNAN

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SUMMARY

Experienced Senior Machine Learning Engineer with over 18 years of expertise in big data technologies, cloud computing, and machine learning algorithms. I have a strong passion for exploring emerging tools and technologies that enhance data and machine learning capabilities. Driven by intellectual curiosity, committed to leveraging technology to solve customer challenges and improve the overall customer experience.

TECHNICAL SKILL

- Python, Shell script, Spark
- Meta base, Superset, Power BI, Tableau, Looker
- React, Java script, Ajax, jQuery
- Google Cloud Platform, AWS, Azure
- Databricks, Snowflake, Docker,
- Bigtable, Big query, Oracle, Druid,
- Airflow, Hive,
- Java, Restful services, Spring boot
- Cron, Atomic
- Oozie, Alteryx, Airflow
- Jenkin, CICD, NGINX, Maven, Docker
- Agile Scrum, CI/CD
- Junit, Test Genie
- IBM WebSphere Application Server, Tomcat
- Supervised and Unsupervised ML Algorithms
- LLM, Lang chain, Crew AI

PROFESSIONAL EXPERIENCE

Sams, Tech Lead/ Senior Machine Learning Engineer, Bentonville, Arkansas.

Sams Supply Chain Analytics

March 2022 – Current date

- Achieved 97% accuracy in IDC outbound Model forecasting using prophet model and hyper tuned model parameters.
- Achieved 90% accuracy in Direct Shipment to Vendor forecasting using prophet and XGBoost Ensemble model.
- Developed the RAG model for SPOT chatbot for IDC integration and worked with Element team for configurations.
- Developed an accurate forecasting model for IDC Containers using data from GVT and Four Kites.
- Implemented a clustering model for forecasting trailer dwell time, utilizing Tableau visualizations to reduce carrier delay costs by 40%.
- Produced an analytics report for GDC Full Pallet Optimization, leading to a 30% reduction in operational costs.
- Designed and developed Airflow pipelines to ingest data from GLS and YMS into the GCP platform.
- Integrated a language model in the SKY platform, tuning it for accuracy in IDC container forecasts.
- Implemented DevOps tools for CI/CD and Jenkins integration for Antifactory's Jenkins upgrade.
- Contributed to the SPOT Chatbot Platform team, fine-tuning the OpenAI LLM model and employing a similarity matrix algorithm.
- Built ML Ops pipelines for DSV forecasting and SDC trailers, along with a data quality framework to monitor variance and improved accuracy for SDC trailer forecasting by 94% network weekly and daily by 90%
- Developed visual reports using Power BI for DSV and SDC forecasts.
- Created Airflow pipelines for the Vision team to analyze pallet full pull versus case pickup.
- Resolved issues with Docker pipelines and successfully migrated the Databricks runtime and Spark versions, leading the team through the complete migration process.
- Developed an MLOps pipeline for machine learning, focusing on feature engineering and tuning Prophet and XGBoost models through hyperparameter optimization, resulting in forecast accuracy exceeding 90%.
- Analyzed GCP and Azure datasets to create features for weather, emit events, and IDC events.
- Developed end-to-end DevOps pipelines for IDC forecasting, collaborating with third-party teams to integrate data from Ocean Carrier and Four Kites.

Walmart, Senior Data Scientist, Bentonville, Arkansas.
Customer Insights & Research

Sep 2019 – Feb 2022

- Scaled models for Customer Lifetime Value (CLTV) and Customer Lifetime Revenue (CLTR) to predict customer behavior over the next 30, 60 days, and 3 years.
- Established an analytics model data pipeline for time-sensitive busy families (TSBF) and budget-sensitive busy families (BSBF).
- Designed a high-level architecture for Project Carrot (Instacart) and Walmart Financial Services, integrating Money Order and Earnest data for external teams.
- Developed an RFM model pipeline with scoring sets, feature labels, and a merchandising CLTR dashboard.
- Architected the Sales Order Line module to handle petabyte-scale data, achieving a 50% reduction in GCP costs.
- Enhanced program efficiency by automating approximately 50% of reports using Superset and Metabases dashboards.
- Optimized Airflow pipelines in Python for batch processing, improving data ingestion efficiency by 20%.
- Created a Python cluster manager to support data analysts, boosting productivity by 30%.
- Led the cloud team in developing Superset dashboards for Big Query cost monitoring, saving around \$3 million in GCP expenses reducing big query slot optimization and purging the tables.
- Implemented HTTPS and SSL certificate management (SSL offloading for dashboard servers) using NGINX.

Walmart, Senior Software Engineer, Bentonville, Arkansas.
Assortment & Modular Analytics

Jul 2016 - Aug 2019

- Worked on machine learning algorithms for assortment analytics such as Customer Decision Tree, Affinity, Loyalty, clustering algorithms using Spark, Hadoop framework scaled around peta bytes volume of data.
- Implemented analytics pipeline for XGBOOST Model in Spark for assortment endcap features to scale up 3 million Items for all department and category level.
- Developed Assortment optimization tool (AOT) to automate the data pipeline by 90%.
- Supported Assortment workshop process for business reports and reduced from 5 days process to 1 day.
- Azure developed analytics pipeline using data bricks and data factory for proof of concept.
- Developed the Java restful microservices to enable the Spark thrift services as near real time services
- Implemented Java Active MQ publish and listener broker between the front and back-end applications.
- Implemented the Spring boot microservices used as service layer for front end applications.
- Performed Unit Testing and Integration Testing.

Tata Consultancy services, Big Data Lead, Bentonville, Arkansas.
Customer Knowledge Platform

Nov 2015 - Jun 2016

- Created high level architecture to store Customer Analytics Record (CAR) and Customer Knowledge Platform (CKP) and ingested around 12 peta bytes of data.
- Implemented the Customer last mile's location algorithm in MapReduce to compute distance using Haversine formula and identified the customer last mile's location.
- Ingested around 10 terabytes volume of data in Sqoop/oozie process and optimized the queries in data lake.
- Created data lake exporting data form Oracle to Hadoop data Lake ETL jobs.
- Led the design and development with client and offshore team for data lake application.
- Member Engagement Platform (MEP) is to automate Sam's Membership campaign using web based front end and Hadoop as backend and improved efficiency by 30%
- Automated and productionized the models such as Clustering, Propensity Score, Basket Categorization, Offer Assignment, Backfill and Campaign Measurement.
- Developed the MapReduce in Java for Customer Last mile delivery.

Tata Consultancy services, Web Developer Data Lead, Home Depot, USA.
Item Data Management (IDM)

Nov 2013 - Oct 2015

- Developed data cleansing scripts and web services using AXIS and restful services
- Created Item Management Java Application for Item catalog applications for million items.
- Implemented web application using java, J2EE, Struts Framework.
- Developed Spring applications to handle scheduled Item catalog migrations.
- Conducted Code Reviews and maintained all artifacts for post-production activities.
- Received appreciations for implementing performance improvement and cost saving activities

Tata Consultancy services, Web Developer Data Lead, Target, India.
Catalog Data Service

Dec 2011 - Nov 2013

- Developed data cleansing scripts and web services using Spring and restful services
- Created catalog applications for data service layer using java and spring, Hibernate.
- Worked on postproduction activities and created release documents regarding the application enhancements

Sella Synergy and Gruppo Banca Sella, Data Engineer, Banca Sella, India.
Internal Rating System (IRS)

Dec 2006 - Oct 2009

- Developed Internal rating system as web application.
- Created and designed data models and tables.
- Implemented Java patterns such as query decorator, composite pattern for PEP applications.
- Normalized SQL database conforming to design concepts and best practices.

EDUCATION

Quantic School of Business & Technology
Master of Business Administration*

June 2026

Ecornell Machine Learning Foundations

June 2021

Master of Science in Software Systems
Birla Institute of Technology and Science, Pilani Campus, India

Dec 2011

Bachelor of Computer Science & Engineering
Erode Sengunthar Engineering College, Anna University, India

May 2006

CERTIFICATIONS & AWARDS

- Leading Teams University of Michigan
- MAD awards from Sams Club for outstanding contribution in technology.
- Earned Star Award for Merchandising Area in Walmart
- Earned Star Award for deliverable for Item Catalog project
- Completed One Ops, Big data certification, SCJP Java Certification.