

# Avikal Singh

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## Summary

Data Scientist with proven expertise applying SQL, Python, and R to large-scale datasets, driving product strategy and investment decisions that improved user engagement by 40% and business outcomes by 25%. Skilled in quantitative analysis, experimentation, data mining, and storytelling with data, collaborating cross-functionally to define product roadmaps, forecast key metrics, and influence strategic initiatives through rigorous hypothesis testing and actionable insights.

## Education

University of Arizona, MS in Information Science - Machine Learning (3.89 GPA)	Aug 2023 - May 2025
Dr. Bhim Rao Ambedkar University, India, BE in Computer Science (3.6 GPA)	Aug 2018 - Jul 2022

## Experience

Research Data Scientist, VSI Labs – Tucson, AZ	Jan 2025 – Present
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- Analyzed 119,000+ clinical image-report pairs with SQL and Python to identify product opportunities and measure model performance through BLEU-4 and ROUGE-L metrics, driving 63% improvement in report generation quality.
- Partnered with engineering and research teams to define goals and test hypotheses using A/B experimentation and statistical methods, increasing AI adoption by 40% across clinical workflows through data-driven product roadmaps.
- Monitored key product metrics with Python dashboards to track user engagement trends and forecast impact, influencing strategic investments that expanded model deployment to 4,000+ new use cases.
- Communicated insights through data storytelling and visualizations to convince cross-functional partners of technical approaches, building credibility and driving consensus on AI infrastructure decisions.

Software Engineer – Data/ML, Center for Railways Information System – New Delhi, India	Aug 2022 – Jul 2023
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- Applied quantitative analysis and data mining to 10M+ traffic records using SQL and Python, uncovering efficiency levers that reduced system latency by 40% and informed product strategy for real-time management systems.
- Developed forecasting models with Random Forest and scikit-learn to predict demand patterns and set performance goals, achieving 98.72% accuracy and enabling proactive resource allocation across operations teams.
- Collaborated with engineering, product, and finance partners to present analytical findings through Tableau dashboards, influencing roadmap priorities and driving 30% improvement in stakeholder decision-making speed.
- Defined success metrics and monitored product performance with SQL and Python analytics, identifying trends that shaped product development and ensured alignment with business objectives.

Data Science Intern, Softpro India Pvt Ltd – Lucknow, India	May 2021 – Jul 2021
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- Solved pricing optimization problems using SQL queries and Python statistical analysis on 1M+ transaction records, employing regression techniques that reduced discrepancies by 20% and increased profitability by 18%.
- Presented data-driven recommendations to product and engineering teams using clear visualizations and structured insights, influencing pricing strategy and demonstrating impact through quantitative analysis.
- Tested hypotheses with exploratory data analysis and A/B methodologies to understand customer behavior trends, informing product enhancements and validating levers for revenue growth.

## Projects

### Customer Segmentation and Predictive Analysis

- Applied clustering and predictive modeling with Python and scikit-learn to segment user behaviors, uncovering insights that shaped targeted strategies and increased engagement by 25%.

## Skills

- **Languages:** Python, SQL, R
- **Libraries & Tools:** Pandas, NumPy, Scikit-learn, PyTorch, TensorFlow, Git, Tableau, Power BI
- **Databases:** SQL-based Systems, PostgreSQL, Amazon Redshift, Large-scale Datasets
- **Techniques:** Quantitative Analysis, Experimentation (A/B Testing), Data Mining, Forecasting, Statistical Modeling, Hypothesis Testing, Goal Setting, Metric Monitoring
- **Professional Strengths:** Data Storytelling, Cross-functional Collaboration, Product Intuition, Strategic Influence, Communication & Presentation

## Certifications

• AWS Certified Data Engineer – Associate (DEA-C01), Amazon Web Services	June 2025
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