

# Vinay Purushothama

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## PROFESSIONAL SUMMARY

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Skilled in data analysis with 3+ years of experience leveraging SQL, Python, and Tableau to identify opportunities to improve product & process performance, and decision-making with a focus on causal inference. Experienced in statistical analysis, hypothesis testing, basic ML techniques and building scalable business solutions.

## EDUCATION

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<b>Masters in Technology</b> (Mechatronics) National Institute of Technology Karnataka, Surathkal	2014 - 2016 Grade: 8.83/10.0
<b>Bachelor of Engineering</b> (Mechanical Engineering) BMS Institute of Technology, Bangalore	2010 - 2014 Grade: 78.0%

## EXPERIENCE

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<b>Senior Engineer (Analytics)</b> Bosch Global Software Technologies	March 2022 - Present <i>Bangalore</i>
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- Built time-loss metrics and **dashboards** to enabling scalable monitoring of operational KPIs thereby reducing resource efforts from 3 days to 2 hours.
- Conducted scenario analysis across 3 high-risk segments and 20k+ customer records resulting in **19%** drop in attrition risk.
- Built and validated a **logistic regression** model achieving AUC **0.83** and **68% model accuracy**, enabling proactive retention strategies.

<b>Engineer</b> Dover India PVT LTD	August 2017 - March 2022 <i>Bangalore</i>
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- Applied structured problem-solving and **causal thinking** to identify root causes and support process-level decision in FnB equipment domain.
- Collaborated with **cross-functional** stakeholders and external partners to drive design and cost improvements, including automating calculations to reduce man-hours using **Excel** macros.

## PROJECTS

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<b>Customer Churn Prediction using Regression Techniques (Company Project)</b>	November 2024
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- Built a unified customer dataset (20k) from multiple sources using advance querying techniques like **window functions**, joins and cte, deriving key behavioural and transactional indicators to support churn analysis.
- Perform **cohort analysis** to identify high-risk customer groups, revealing customers with high payment delays had **3.2x** higher churn risk, enabling targeted retention strategies.
- Adjusted model decision threshold to prioritize early identification of potential **churners**, enabling proactive retention actions despite higher false positives.
- **Tools & Technologies:** Python (Pandas, Seaborn), Advance SQL, Logistic regression (Cross validation, threshold tuning), Cohort analysis

<b>Data-Driven Optimization of Manufacturing Output and Shift Performance (Company project)</b>	March 2024
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- Developed a time-loss metric to identify **66%** higher inefficiency in underperforming machines, enabling **scalable** monitoring.
- Identified machine-shift interaction driving lower run time efficiency, impacting **27K** units of annual throughput with operational improvements.
- Diagnosed shift-level inefficiencies by isolating downtime as the primary driver of reduced production stability, validated through **statistical testing**.
- **Tools & Technologies:** Tableau Live and scalable dashboaring, Hypothesis testing (Anova, KW Tests), Python.

## CERTIFICATIONS

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<b>Data Science and Machine Learning</b> Scaler Academy ( <a href="#">Link</a> ) Completed a comprehensive program in Data science and machine learning (supervised, unsupervised).	October 2023
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## SKILLS

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**Computer Languages:** SQL, Python, Machine Learning

**Data Tools:** Power BI, NumPy

**Software Packages:** Excel, MySQL