

Sai Hitesh Bhandaru

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Summary		
Chemical Engineer with 8+ years of experience across semiconductor fabs, petrochemical refineries, and alumina processing plants. Specialized in process optimization, Advanced Process Control (APC), and data-driven modeling using statistical, physics-based, and AI/ML approaches. Proven track record of deploying real-time optimization solutions, leading cross-functional teams, and managing client-facing value realization initiatives.		
Qualification	Institute	Year
MBA (pursuing)	Indian Institute of Management, Ahmedabad	2024-2026
M.E (Chemical Engineering)	Birla Institute of Technology and Science, Pilani	2019
B.Tech (Chemical Engineering)	Jawaharlal Nehru Technological University, Hyderabad	2016
Professional Experience		(8+ years)
Intel Corporation, Bengaluru		Ongoing
Module Development Engineer		September'25-Till Date
Roles and Responsibilities		
- Developed Advanced Process Control (APC) models and created process Recipes for Dry Etch modules supporting 14A node development, working closely with layer owners and US-based focus teams. - Identified and qualified golden chambers using Special Instruction flags, enabling robust APC model development and standardized recipe creation. - Automated fab-level reporting pipelines using SQL Pathfinder and Power BI dashboards, improving visibility into process performance and reducing manual reporting effort.		
Ingenero Technologies, Mumbai		3 years 6 months
Data Scientist		April '22-August '25
Roles and Responsibilities		
- Led an 8-member cross-functional team (2 process engineers, 6 data scientists) to deliver real-time monitoring and optimization solutions for SABIC's petrochemical refinery in Saudi Arabia. - Delivered 15+ data-driven dashboards for real-time plant monitoring and optimization, enabling operational decision-making at scale - Developed soft-sensor predictive models and time-series forecasting solutions to estimate catalyst age and performance degradation. - Managed client interactions post-deployment, leading value realization discussions and securing approvals for benefits delivered by deployed models.		
Aditya Birla Group, Mumbai		2 years 10 months
Scientist		July'19-March'22
Roles and Responsibilities		
- Developed process optimization advisories using CFD modeling for alumina precipitators and calciners, improving process stability and operational efficiency. - Implemented AI/ML-based predictive models in Python for real-time product quality prediction, reducing dependency on frequent laboratory testing. - Drove business development initiatives by engaging with unit heads across multiple Hindalco refineries, contributing to the acquisition of new optimization projects.		
S&S Technomark Pvt. Ltd, Hyderabad		1 year 1 month
Graduate Apprentice		April'16-May'17
Roles and Responsibilities		
- Conducted detailed literature surveys and mass & energy balance studies in collaboration with IICT Hyderabad and GACL, Gujarat. - Contributed to preparation of Detailed Project Reports (DPRs) and interpretation of PFDs and P&IDs.		

Technical Skills

- **Process & Control:** Advanced Process Control (APC), Statistical Process Control (SPC), Recipe Creation, Golden Chamber Identification.
- **Data & Modeling:** Python, SQL, Statistical Analysis, Time Series Forecasting, Soft Sensors, AI/ML, Rapidminer, Generative AI.
- **Visualization & Tools:** Power BI, SQL Pathfinder, Ansys Fluent, Design Modeller.
- **Domains:** Semiconductor Dry Etch, Petrochemical Refining, Alumina Processing

Additional Certifications

- **Team Titan Award** - Overall team performance.
- **Best Customer Centricity Award** - Client delivery and value realization.
- **Rising Star Award** – Outstanding performance in first year.
- Published and presented research at ICSOBA international conference (Alumina & Aluminum)