

# Vedant Borkute

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## Education

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**University of California, Riverside**

*MS in Computer Science*

*Sep 2025 – Mar 2027*

Riverside, California

**Indian Institute of Technology, Bombay**

*B.Tech in Computer Science*

*Aug 2019 – Apr 2023*

Mumbai, Maharashtra, India

## Experience

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**Data Scientist - Finarb.ai**

*Aug 2023 - Aug 2025*

- Implemented and benchmarked forecasting statistical(Seasonal AR, VAR, Facebook Prophet) and deep learning based models (LSTM, TCN) for order data across different nodes in pharmaceutical supply chains, achieving a **90% reduction in Mean Absolute Percentage Error**.
- Conducted time-series diagnostics **ACF/PACF plots & EACF matrices, mean and variance stationarity tests**, and incorporated **exogenous variables** like mortality rates, veteran population statistics, inventory, backorders) into forecasting models to improve forecast accuracy.
- Built an **end-to-end forecasting pipeline** including data generation, pre-processing, model selection with custom metrics, and docker-based containerization for reproducible deployment.
- Implemented AI Agents:
  - **Feature Engineering:** Generation of domain-relevant features via retrieval-augmented generation on internet-based and other sources, improving model performance by 5%..
  - **Cross-Database Queries:** Enabling natural language queries spanning multiple databases/datasources with a SQL and Python code generation agentic workflow.
  - **Business Dashboards:** Automated creation of dashboards with key performance indicators and intuitive visualizations.
- Performed data preparation and analysis for pharmaceutical use cases (inventory-order correlations, order-pricing correlations, supply scenario assessment, purchasing pattern) using optimized **SQL scripts** to generate datasets, compute metrics, and present summaries to leadership.
- Developed comprehensive **Power BI reports** for share gain attribution, portfolio performance, competitor dynamics (top share gaps, vulnerability trends, consecutive share losses), BCG-style prioritization, and annual revenue/volume dashboards with executive summaries.

## Projects

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**Online Competing and Development Environment – Advisor: Prof. Amitabha Sanyal**

**Autumn 2020**

- Built and deployed a remote virtual Linux environment to eliminate inter-OS compatibility issues and enable cross-platform code compilation via a web browser.
- Developed a **Django backend** supporting user accounts and storage of up to 10 files with directory structure; designed the frontend using **Bootstrap**.
- Added support for multiple programming languages (C++, Java, Python) with standard library support.
- Implemented an online competing environment where users could attempt scheduled problems, with submissions auto-graded based on input parameters.

## Technical Skills

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- **Languages:** C++, R, JavaScript, Python, Bash, Prolog, AWK, MIPS, Neo4J CQL, SQL, Sed, Lex, Yacc, L<sup>A</sup>T<sub>E</sub>X
- **Technologies:** Pandas, R, SQL, Power BI, NumPy, SciPy, MATLAB, PostgreSQL, React, Django, PyTorch, TensorFlow, MongoDB
- **Software:** Microsoft Excel, RStudio, DataGrip, Cursor, Docker, Git, PowerPoint, Word, Slack, Azure DevOps, Jira, Confluence

## Accomplishments

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- Ranked AIR 1 (OBC-PwD) in IIT-JEE Advanced 2019, among the top 0.8% nationwide in JEE Main among 1.3 million candidates.