

# Oviya Arunachalam

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Industrial & Operations Engineering graduate with expertise in advanced analytics. Skilled in predictive modeling, visualization, and operations optimization, applying data science to improve decision-making and business outcomes.

## EDUCATION

**University of Michigan, Ann Arbor**

*Master of Science in Industrial and Operations Engineering*

**Aug 2024 – Dec 2025**

**GPA: 3.75/4.0**

**PSG College of Technology, Coimbatore, India**

*Bachelor of Engineering in Robotics and Automation Engineering*

**Sept 2020 – July 2024**

**GPA: 3.84/4.0**

## SKILLS & CERTIFICATIONS

- **Programming Languages:** Python | SQL | R | MATLAB.
- **Technical Skills & Software:** Visual Studio | MySQL Workbench | phpMyAdmin | MS Excel | R Studio | Tableau | Power BI | Minitab | Power BI.
- **Analytical Skills:** Advanced Joins | Aggregate Functions | Data Integration & Automation | Data Analysis | Data Visualization & Dashboard Building | Statistical Analysis | Business Model Canvas.
- **Certifications:** Introduction Data Science in Python | Applied Plotting, Charting & Data Representation in Python | Applied Machine Learning in Python | Introduction in Structured Query Language.

## EXPERIENCE

**Programmer Analyst - University of Michigan, Ann Arbor, MI**

**Nov 2024 – July 2025**

- Engineered and optimized MySQL relational database solutions using phpMyAdmin, improving query performance and reducing average retrieval time by 30%.
- Designed and implemented data standardization and deduplication scripts, systematically cleansing institutional records to ensure robust long-term data integrity.
- Automated recurring data extraction and reporting pipelines, cutting manual processing time by 40% and improving operational efficiency across departments.

**Logistics Planning Intern, Hatsun Agro Product Ltd, Chennai, India**

**May 2023– June 2023**

- Executed end-to-end logistics workflows in SAP-LE, streamlining daily order processing operations and improving cross-functional transaction efficiency by 12%.
- Generated and validated bills of order in SAP, ensuring 100% compliance with company standards and reducing errors.
- Optimized inventory control and distribution strategies using SAP MM & LE modules, balancing stock levels across 20+ distribution points to minimize holding costs and stockouts.

## ACADEMIC PROJECTS

**Ford VanDyke Powertrain Center - Stator Cart Flow Optimization**

- Built quantitative models integrating time studies, production logs, and quality reports to measure throughput and cost-effectiveness, enabling data-driven decisions.
- Leveraged Python, KPIs, and Lean Six Sigma tools (Pareto analysis, Value Stream Mapping) to identify inefficiencies, validate solutions with Discrete Event Simulation, and optimize workflows.
- Delivered measurable impact by reducing non-value-added time from 30% to 10% and significantly improving throughput efficiency across operations.

**Business Model Development for ThermoVerse - NYC LL97 Compliance**

- Conducted market, competitive, and customer trend analysis of NYC LL97-regulated building markets, building dynamic Excel-based financial models and comprehensive ROI forecasts that identified a projected profit of \$2.40/sf/year, clearly outperforming traditional models.
- Designed product concepts and MVP strategy by creating wireframes, integrating user feedback and regulatory insights, and collaborating with stakeholders to align on market entry and long-term vision.
- Developed KPI tracking templates and scenario analyses to monitor compliance costs, adoption rates, and cost-sharing mechanisms, delivering actionable insights for ongoing performance and client reporting.

**Optimizing Telemarketing Strategies: Customer Conversion Prediction for Insurance Sales**

- Analyzed 56k+ customer campaign records by feature engineering and KPI tracking (conversion rate, ROI, lead quality), delivering insights that drove data-driven marketing product improvements.
- Built predictive models in Python to identify high-probability customer segments, achieving AUC-ROC 0.923 and F1 0.58, and enabling targeted outreach that improved adoption and campaign efficiency.
- Delivered explanatory visuals and translated precision-recall trade-offs for non-technical stakeholders, guiding product roadmap priorities and improving client engagement strategies.

## PUBLICATIONS

- Sanjana Raghavan, Oviya Arunachalam, Amrita Babu, Subashini Govindaraju; Leveraging the benefits of digital twin in delivering personalized medicine using IOT. AIP Conf. Proc. 4 March 2024; 3035 (1): 020025.
- Bindu Bhaskaran, Arikaran Ramesh Babu, Oviya Arunachalam, Sanjana Raghavan; Control and autonomy of microbots. AIP Conf. Proc. 4 March 2024; 3035 (1): 020028

## LEADERSHIP SKILLS

- Secretary and Joint Secretary of the Finance Club (Finverse) of the college **July 2022 – April 2024.**
- Administration head of Animal Welfare Club **July 2022 – April 2023.**
- Senior executive of social media and publicity domain of Women Development Cell **July 2022 – April 2023.**