

# NIVETHINI SETHILSELVAN

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## EDUCATION

<b>Northeastern University - Master of Professional Studies in Applied Machine Intelligence (GPA – 3.9/4.0)</b> Key courses: Data Mining, AI Communication and Visualization, ML Operations, Business Intelligence.	<b>Boston, MA</b> Aug 2026
<b>Anna University - Bachelor of Technology in Information Technology (CGPA – 9.1/10)</b> Key courses: Probability and Statistics, DBMS, Python, Java, OOPS, Data Structures, Supply Chain Management.	<b>Chennai, IN</b> May 2022

## PROFESSIONAL EXPERIENCE

<b>Mutlicoreware/Uhnder Pvt Ltd</b> <i>Software Engineer</i>	<b>Chennai, IN</b> Jun 2022 – Jul 2024
<ul style="list-style-type: none"><li>Developed a Performance Analysis Dashboard for CPU, RAM, DSP, and ACP usage, integrating <b>SQL</b> for data retrieval and processing real-time live data, leveraging <b>Matplotlib</b> and <b>Seaborn</b> for dynamic visualization.</li><li>Engineered a Peer's KPI Metrics Dashboard to track bug metrics, test case execution, and automation coverage. Optimized data extraction with <b>SQL</b>, automated preprocessing with <b>Python</b>, and enabled real-time visualization in <b>Grafana</b>.</li><li>Automated Radar performance data collection and integration with <b>SQL</b>, developed a <b>Flask-based dashboard</b> for real-time visualization, identifying 25% more undetected bugs across releases.</li></ul>	
<b>Mutlicoreware/Uhnder Pvt Ltd</b> <i>Intern - Software</i>	<b>Chennai, IN</b> Sept 2021 – May 2022
<ul style="list-style-type: none"><li>Developed a <b>Python Auto-Mail Trigger Script</b> to identify MISRA-C++ violations in Git commits.</li><li>Developed a Hardware Inventory Dashboard using <b>Python/Flask</b> to display radar details and its current operational state.</li></ul>	

## PROJECTS

<b>CPS-AI Assistant (Northeastern University)   RAG   Vector DB   OLLAMA   Groq   Streamlit (Github)</b>	<b>Feb 2025</b>
<ul style="list-style-type: none"><li>RAG-Powered Chatbot – Built an AI chatbot using <b>Retrieval-Augmented Generation (RAG)</b> for precise, context-aware student queries.</li><li>Efficient Vector Search – Implemented <b>Ollama embeddings with Supabase</b> vector DB for fast, accurate semantic retrieval.</li><li>Scalable AI UI – Developed a <b>Streamlit-based interface</b> with real-time responses via <b>Groq's LLAMA 3.3 70B</b> model.</li></ul>	
<b>Predictive Analytics for High-Value Customer Churn in the Telecom Sector   EDA &amp; Machine Learning (Github)</b>	<b>Jul 2024</b>
<ul style="list-style-type: none"><li>Developed a machine learning pipeline leveraging <b>logistic regression and decision tree classifiers</b> to predict customer churn for high-value telecom subscribers using monthly usage data.</li><li><b>Feature Engineering &amp; Dimensionality Reduction:</b> Applied <b>PCA</b> and advanced feature extraction techniques to optimize model performance and reduce dimensional complexity, handling class imbalance using <b>SMOTE</b>.</li><li>Identified key churn indicators like call volume, data usage, and recharge frequency for retention strategies.</li></ul>	
<b>Customer Segmentation and Lead Scoring System for Predicting Lead Conversion   EDA &amp; Logistic Regression (Github)</b>	<b>Jun 2024</b>
<ul style="list-style-type: none"><li>Engineered a logistic regression model with <b>feature selection and regularization techniques (L1/L2)</b> to predict lead conversion probability, optimizing resource allocation for sales teams.</li><li>Conducted data cleaning, outlier treatment, and encoding (one-hot/label) to ensure model robustness.</li><li>Implemented <b>cross-validation, ROC-AUC analysis, and hyperparameter tuning</b> to achieve a predictive accuracy of 80% for lead scoring, streamlining lead prioritization and enhancing sales effectiveness.</li></ul>	
<b>SQL-Driven Insights for Optimizing Global Movie Release Strategy - Insights for RSVP Movies (Github)</b>	<b>Mar 2024</b>
<ul style="list-style-type: none"><li><b>Applied advanced SQL techniques</b> such as complex JOINS, subqueries, and window functions (e.g., ROW_NUMBER(), RANK()) to analyze and rank global movie performance based on revenue, genre, and audience demographics.</li><li><b>Utilized CTEs and nested queries</b> for dynamic aggregation, trend analysis, and identifying relationships between budget, cast, and box office success across different regions.</li><li><b>Employed advanced filtering and aggregation</b> with GROUP BY, HAVING, and CASE WHEN statements to uncover insights into movie language, cast impact, and budget allocation, optimizing strategies for global releases.</li></ul>	

## TECHNICAL SKILLS

**Programming Languages:** Python (Pandas, NumPy, Matplotlib, Scikit-learn, Seaborn, TensorFlow, PyTorch), Java, SQL.  
**Data Science and ML:** Regression, Classification, Decision Trees, SVM, Clustering, Neural Networks, NLP, LLM.  
**Data Analytical Tools:** Tableau, Power BI, MS Excel (VLOOKUP, Pivot Tables, VBA), Jupyter Notebooks, Google Analytics.  
**Data Warehouse Tools:** MySQL, MSSQL Server, GCP, AWS (S3, EC2), Snowflake, ETL, Airflow, Kubernetes, Docker.  
**Other Tools and OS:** Jira, Confluence, Git, Agile, Kafka, MS PowerPoint, MS Word, Microsoft Office Suite, Windows, Linux.  
**Soft Skills:** Strong Written and Verbal Communication, Easy Collaboration and Teamwork, Problem Solving, Analytical Skills.