

Nagalakshmi Lakshminarayana

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SKILLS

Programming Languages: Python, Java, JavaScript, TypeScript

Machine Learning: Numpy, Pandas, scikit-learn, PyTorch, TensorFlow, Keras, Matplotlib, Linear Regression, Logistic Regression, Decision Trees, Random Forests, SVMs, Neural Networks, Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Transformers, Large Language Models (LLMs), Deep Learning

Frameworks: Spring Boot, Flask, React, Django

Cloud & DevOps: AWS, Azure, Kubernetes

Database Technologies: MySQL, MongoDB

Development Tools: Agile, REST APIs

EDUCATION

Master of Science - Computer Science | University of Wisconsin-Milwaukee, USA | GPA: 3.81 | Sep 2023 - May 2025

Bachelor of Engineering - Information Science and Engineering | BNM Institute of Technology, India | GPA: 8.4 | Aug 2015 - May 2019

Coursework: Machine Learning, Natural Language Processing, Artificial Intelligence, Data Structures and Algorithms, Cloud Computing.

WORK EXPERIENCE

Software Developer Intern | The Heel Inc, Green Bay, WI, USA | Jan 2025 – May 2025 and Jun 2024 – Aug 2024

- Developed a points-based **customer loyalty platform** using **Flask, React, and AWS**, integrating real-time purchase analytics to deliver personalized rewards, increase **user engagement** and boost **customer retention**.
- Designed and implemented **data pipelines** to process customer loyalty and purchase data, using Python and AWS Lambda.
- Integrated backend APIs with AWS-hosted customer data, contributed to the architecture of the internal analytics system.
- Designed and implemented **Flask-based web applications** to manage the **customer database** and helped identify and merge duplicate customer records.
- Deployed cloud-native applications using **AWS, automating workflows** and reducing manual effort by 25%.

Patent Associate / Senior Patent Associate | Hourglass Research | India | Feb 2020 – July 2023

- Led technical evaluations for technologies in **e-commerce, streaming & telecom**, enhancing patent analysis and licensing strategies.
- Developed tools in **Python** and **Java** to automate patent analytics, increasing analysis efficiency and accuracy
- Generated in-depth licensing reports with patent-product mapping and economic models for strategic decision-making

Application Development Associate | Accenture | India | Aug 2019 - Feb 2020

- Engineered efficient software solutions by leveraging **Java, Dot Net, and MySQL**, focusing on **scalability** and **performance**
- Developed user friendly web applications with a keen eye on **performance, optimization** and help enhance brand outreach.

Software Intern | Indian Space Research Organization (ISRO), India | Jul 2018 – Aug 2018

- Built software for synchronizing Star Sensor Test Console and Dynamic Multi Star Simulator through **TCP/IP** Programming.
- Designed and developed software using object-oriented languages (**Java**) for implementing software solutions that enabled real-time communication between the star sensor test console and dynamic multi-star simulator.

CERTIFICATION

Machine Learning

- Supervised Machine Learning: Regression and Classification — DeepLearning.AI & Stanford University - Coursera, Jul 2025

Verified at <https://coursera.org/verify/W3XRU42I8K2K>

- Large Language Models: Text Classification for NLP using BERT — LinkedIn Learning

Verified at <https://lnkd.in/gWXa3mwD>

PROJECTS

Cover Letter Generation and its Automatic Evaluation

- Developed a system to generate personalized cover letters using **GPT-4** based on Resume–Job Description pairs.
- Built an automatic evaluation pipeline using **KeyBERT** and **Sentence-BERT** to assess cover letter relevance via precision, recall, and other error metrics. Conducted large-scale evaluation on 1000 samples, and compared results against manual scoring (Smaller samples)
- Achieved strong alignment between automatic and human evaluations with optimized keyword filtering.

Bank Marketing Campaign Analysis

- Performed detailed analysis of the **Bank Marketing dataset from the UCI repository** to predict client subscription to term deposits.
- Conducted **data cleaning, feature engineering**, and exploratory analysis.
- Implemented and evaluated multiple machine learning models including **Logistic Regression, Decision Trees, and SVM** to improve campaign targeting and efficiency.

Task Manager Application

- Engineered a task manager application using Java and Spring Boot, deployed on AWS Elastic Beanstalk
- Integrated RDS, MongoDB Atlas, S3, and EC2 for full application functionality.