

Vinay Varshigan

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EDUCATION

Master of Science, Computer Science - Northeastern University GPA: 4.0 / 4.0	Sep 2025 - Present
Teaching Assistantship: Algorithms (CS5800) Coursework: Programming Design Paradigm using Java, Algorithms, Natural Language Processing, Software Engineering	Jan 2026 - Present
Bachelor of Engineering in Computer Science - ANNA UNIVERSITY GPA: 3.2 / 4.0	Sep 2021 - Jun 2025

SKILLS

- Programming:** Python, SQL, Java
- Data Science:** Machine Learning, Deep Learning (CNNs, Transformers), NLP, Feature Engineering, Model Evaluation
- Data Engineering :** ETL Pipelines, MySQL, SQL Optimization, AWS, Docker, Linux
- Data Analytics:** Power BI, DAX, Data Cleaning, KPI Dashboards, Visualization (Pandas, Matplotlib, Seaborn)
- Tools & Libraries: Pandas, NumPy, Scikit-learn, PyTorch, Git, REST APIs, Postman

EXPERIENCE

Data Scientist Intern, Besant Technologies, Chennai, India	Feb 2025 - Aug 2025
<ul style="list-style-type: none">Automated MySQL data validation, preprocessing, and feature training using Python (Pandas and NumPy), eliminating manual checks and resulting in a 60% reduction in processing time and improved data quality.Performed exploratory data analysis (EDA), feature engineering, and SQL query optimization to address slow data retrieval, reducing query latency by 20% through schema redesign and indexing.Cleaned and clustered genomics datasets and created interactive Power BI dashboards to deliver actionable research insights.	
Secretary and Creative Group Head, SVCE CyberHub, Chennai, India	Apr 2023 - Dec 2024
<ul style="list-style-type: none">Led cross-functional student teams to plan and execute hackathons and technical events, increasing student engagement and peer-to-peer technical collaboration.Directed creative and digital strategies using analytics and design tools to improve online visibility, driving a threefold increase in social media engagement.	
Software Developer Intern, Bluebase Software Solutions, Chennai, India	Jun 2023 - Jul 2023
<ul style="list-style-type: none">Designed and deployed scalable cloud infrastructure using AWS (VPC, EC2, Auto Scaling) under senior engineer guidance to handle variable traffic loads, improving system reliability and availability.Automated deployment and maintenance workflows using Linux scripts, reducing manual effort, eliminating errors, and streamlining operational processes.Contributed to the design and delivery of software documentation and knowledge-sharing sessions, under mentor guidance, improving team alignment and onboarding efficiency.	

PROJECTS

Seamless Emergency Communication & Wild Animal Detection [[Project Link](#)]

- Collaborated on the development of a prototype real-time wildlife detection pipeline using Python, ResNet50, and Transformer models, enabling faster and more accurate emergency alerts in remote regions.
- Partnered with a cross-functional team to develop IoT motion sensor integration using RF and mesh networks for reliable off-grid alerting.

Smart Food Solutions : AI Based Food & Allergen Detection [[Project Link](#)]

- Engineered a real-time food and allergen recognition model using ResNet50, InceptionV3 and Nutritionix & Allergen APIs to improve allergen identification and provide instant nutritional insights, achieving 93% accuracy

Pocket Forecaster – AI-Powered Smartphone Recommendation Engine [[Project Link](#)]

- Developed a smartphone recommendation system using Java(OOP, MVC, Strategy pattern) to suggest phones and add-ons based on user budget, usage, and OS, delivering scalable and user friendly recommendations.
- Implemented and tested backend modules in Java and integrated a hybrid sentiment analysis model using NLP techniques (VADER and BERT) to analyze customer reviews, providing insightful ratings and improving user

decision-making confidence.

Retail Sales & Operations Dashboard | Power BI

- Cleaned and transformed raw data (handling missing values, formatting, and corrections) to ensure high-quality datasets for analysis and reporting.
- Built interactive Power BI dashboards using effective data visualization and DAX measures (SUM(), parameters) to track sales, orders, and key business KPIs.
- Designed professional layouts and presented insights to non-technical stakeholders, improving business understanding and decision-making.

PUBLICATIONS AND PATENTS

- Published a **Routledge book chapter** on blockchain, smart contracts, and **AI-based** fraud detection [[Journal Link](#)] , won Best Paper Award for **heart-disease prediction** using Decision Tree, Naive Bayes, and Random Forest models (83% accuracy) [[Link](#)], and developed an **AWS-deployed** IoT water monitoring system currently under patent review [[Patent](#)]

CERTIFICATIONS

- **AWS Cloud Essentials**, Amazon Web Services. [[Link](#)]
- **Introduction to Internet of Things**, NPTEL IIT. [[Link](#)]
- **Foundations of Software Engineering and Data Management**, Northeastern University. [[Link](#)]