

Varun Mayilvaganan

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Technical Skills

Programming & Data Handling: Python (Pandas, NumPy, Scikit-learn, Seaborn, Matplotlib, Xlsxwriter, OpenPyxl), FastAPI, Flask, MySQL, Snowflake

Generative AI & Machine Learning: PyTorch, Tensorflow, Keras, Vector Databases (ChromaDB) LangChain, Langgraph, Hugging Face, NLTK, Spacy, Prompt Engineering, Agentic AI pipelines

Tools & Platforms: Git, Docker, Kubernetes, Linux, Conda, Jira, Bitbucket, AWS, GCP

Core Competencies: Data Cleaning, Data Transformation, Feature Engineering, Model Evaluation, Dashboard Development, Statistical Analysis & Generative AI

Education

Anna University - C. Abdul Hakeem College of Engineering & Technology

Sep. 2021 – May. 2025

- Bachelor of Engineering in Computer Science and Engineering - CGPA : 9.10/10
- **Coursework:** Artificial Intelligence & Machine Learning, Deep Learning, Numerical & statistics methods, Natural Language processing, Big Data Analytics, Cloud Computing

Experience

Assistant Data Engineer, StackMentalist Ventures - Pune, IN

Aug. 2025 – present

Tech Stack: Python, SQL, Pandas, NumPy, OpenPyXL, XlsxWriter, Excel, Git, Jira, Bitbucket

- **Problem:** The client - Net World Sports, a leading sports company in UK who relied on manual Excel-based reporting for product, finance, and marketing data. The process was time-intensive, error-prone, and inconsistent across departments, ultimately delaying data-driven decision-making.
- **Responsibilities:**
 - **Automated Reporting Infrastructure:** Engineered an end-to-end reporting pipeline using **Python and SQL**, replacing manual Excel workflows and accelerating reporting across product, finance, and marketing teams.
 - **Data Quality & Validation:** Optimized **SQL extraction** and validation layers to ensure data accuracy, consistency, and auditability before downstream analytics.
 - **Modular Data Transformation:** Built scalable transformation scripts using Pandas and NumPy, automating the generation of **dynamic Excel dashboards** with OpenPyXL and XlsxWriter.
 - **AI-Driven Innovation:** Prototyped LangChain and LangGraph-powered **report-generation agents** to introduce context-aware automation in analytics workflows.
 - **Business Impact:** Achieved an **80%** reduction in report preparation time, enabling **faster insights** and improved cross-functional decision-making.

Assistant Software Engineer Intern, StackMentalist Ventures - Pune, IN

Apr. 2025 – Jul. 2025

Tech Stack: Python, SQL, Langchain, LangGraph, FastAPI

Live Link: <https://rightone.stackmentalist.com/>

- **Problem:** Our organization was facing major challenges in managing **recruitment efficiently** — from time-consuming resume screening and poor coordination between HR, interviewers, and candidates, to low engagement, bias in selection, and a **lack of centralized control**.

- **Responsibilities:**

- **AI-Powered Recruitment Platform:** Contributed to RightOne, an **AI-driven multi-tenant system** automating resume screening and interview scheduling for enterprises.
- **Intelligent Resume Screening:** Developed **AI-enhanced screening** using embeddings to match candidates to roles with over **84%** accuracy.
- **Real-Time Candidate Ranking:** Engineered a scalable **resume ranking pipeline** enabling instant scoring and retrieval of top profiles.
- **Smart Interview Scheduling:** Prototyped automated slot booking, reminders, and **reschedule workflows** for seamless interviewer–candidate coordination.
- **Centralized HR Dashboard:** Streamlined **HR workflows** by enabling real-time tracking of candidate status and interview progress.

Tech Stack: Python, PyTorch, Scikit-Learn, GANs, XGBoost, LightGBM, DNN

- **Problem:** Traditional phishing detection systems struggle to identify **zero-day attacks** due to limited dataset diversity and weak generalization across evolving phishing tactics.
- **Responsibilities:**
 - **Framework Analysis:** Researched **20+ phishing mitigation frameworks** (SPF, DKIM, DMARC, heuristic, and blacklisting systems) to identify weaknesses in **existing detection pipelines**.
 - **Generative Framework Design:** Developed a **GAN-enhanced phishing detection model** that generates **synthetic phishing and legitimate URLs** to expand dataset diversity.
 - **Feature Engineering:** Implemented **multi-modal feature extraction** combining URL, domain, metadata, and HTML/JavaScript signals for robust phishing analysis.
 - **Model Evaluation & Optimization:** Evaluated **ML/DL models** (Random Forest, XGBoost, LightGBM, DNN) and optimized ensemble performance, achieving **92% detection accuracy** and a **14.2% reduction in false negatives**.
 - **Research Contribution:** Proposed a **scalable, GAN-based phishing mitigation strategy** using **data augmentation** and **adversarial resilience testing** for real-time defense.

Software Development Intern, Indworks – Chennai, IN

Jul. 2023 – Jan. 2024

Tech Stack: Flutter, Dart, Firebase, REST API, Git, Figma

• **Responsibilities:**

- **App Modernization:** Upgraded the application to **Version 3 using Flutter**, enhancing **cross-platform performance**, **UI responsiveness**, and overall stability.
- **UI/UX & System Optimization:** Delivered an improved **user interface** and optimized the **reward flow system**, resulting in a **30% increase in session duration** and **90% boost in transaction accuracy**.
- **Code Refactoring & Scalability:** Refactored legacy code and modularized **business logic**, reducing **API latency** and enabling seamless feature scalability.

Projects**Outlyr.AI - Intelligent Cold Email Generator** Code

Tech Stack: Python, ChatGroq, LangChain, ChromaDB, Streamlit

- **AI Outreach Automation:** Developed an **AI-powered assistant** that extracts job details from career portals and auto-generates **personalized cold emails** for recruiters and business leads.
- **Smart Personalization Engine:** Built a system that crafts **context-aware cold emails** for recruitment, service proposals, and business partnerships using **vector-based portfolio matching**.
- **Business Impact:** Reduced **manual email drafting time by 50%** and improved **response rates** through AI-driven content optimization and personalization.

Askaholic - Adaptive QA Agent for interviews Code

Tech Stack: Python, FastAPI, PostgreSQL, Langchain, Langgraph, Redis

- Engineered an **AI-driven interview orchestration platform** that conducts adaptive, behavioral-first interviews aligned with company culture and hiring goals.
- Implemented optimization techniques for **adaptive question generation**, enabling real-time adjustments based on candidate responses, performance, and company context.
- Built an **intelligent evaluation engine** that scores answers across relevance, depth, clarity, and confidence, generating structured, unbiased feedback.
- Developed an adaptive scoring system that dynamically refines question flow and difficulty through **continuous feedback**.
- Achieved a **60% reduction in HR screening time** and improved overall interview efficiency through automated, data-driven adaptability.

Publications**GAN-Enhanced Phishing Detection: Improving Classifier Robustness with Synthetic Malicious Data**

Jan. 2025

Varun Mayilvaganan, Dr. Sina Keshvadi

Manuscript Drafted - 2025 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)

Volunteering

- Member of Student Guidance Cell (SGC): Collaborated with peers to explore new technologies and enhance technical and interpersonal skills.
- Mentored students at CAHCET through Kickstarter sessions on software development and research.