

Yohan Vergis Vinu

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EDUCATION

University of Pennsylvania

Philadelphia, PA

Master of Science in Engineering, Computer and Information Science

Aug. 2025 – May 2027

- **Relevant Coursework:** Applied Machine Learning, Big Data Analytics, Internet and Web Systems

SRM Institute of Science and Technology

Chennai, India

Bachelor of Technology, Computer Science and Engineering (GPA: 9.8/10)

Aug. 2021 – May 2025

- **Leadership:** Class Representative (8 semesters, Best CR award); IoT Lead/Founding Member, NetNex SRM

EXPERIENCE

Full-Stack AI Engineer Intern

Aug. 2024 – June 2025

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Chennai, India

- Developed **Vina**, an AI CHRO platform (Product Hunt) that cut recruiter screening time by **70%** through candidate trait scoring, interview question generation, and ranking (Django, PostgreSQL, LangGraph, AWS)
- Built **Leslie**, an AI permitting agent for Rowlett, TX, automating document verification and audit trails; reduced permit issuance from **3–4 weeks to minutes** (Django, LangGraph, Tailwind CSS)
- Designed **Billie**, a multi-channel utility agent for outages/billing, lowering call center workload by **60%** with automated web, voice, and SMS support (Flask, LangGraph, Twilio, OpenAI Whisper, ElevenLabs, PostgreSQL)
- Developed a **Company Lookup API** (FastAPI, ChromaDB, OpenAI SDK) achieving **95%+ NAICS accuracy** via real-time firmographics and resilient async scraping; and **AI for CEQA compliance** (Django, Gemini, ChromaDB, Leaflet.js) producing environmental reports in **seconds** and cutting review effort by **70%**
- Owned full product lifecycle: authored PRDs, shipped full-stack AI workflows, deployed to AWS, led live demos, managed CEO-level communication, and recorded product walkthroughs

ML Research Intern

Aug. 2023 – Mar. 2024

Samsung R&D Institute India

Chennai, India

- Led a team of 4 to fine-tune a **MobileNetV2-SSD** model for cat/dog feature detection across 9 classes, compiling and annotating a **10,000+ image custom dataset** covering 50+ dog breeds and 15+ cat breeds
- Achieved a **7% accuracy gain** over baseline methods and earned **Samsung's Certificate of Excellence**

PROJECTS

Ensemble Models for Personal Expenditure Forecasting | *PyTorch, LSTM, N-BEATS, LangGraph* Apr. 2025

- Improved expenditure forecasting accuracy by **6% (MASE)** through developing a custom ensemble architecture after comparatively analyzing LSTM, N-BEATS, and dense networks
- Built a LangGraph-based synthetic financial data generator powered by LLMs, capable of producing customizable and high-fidelity datasets spanning **24 invoice attributes across 37 categories** in minutes
- Authored a research paper titled “Synthetic Data Generation and Neural Ensemble Architectures for Personal Expenditure Forecasting”, (**Accepted, IEEE INDISCON 2025**)

InvoiceGPT: Agentic Invoice Processing | *LangGraph, AWS (S3, RDS), TesseractOCR, Streamlit* Dec. 2024

- Cut manual invoice review time by **70%** and achieved **95% OCR accuracy** by architecting an AI-driven invoice processing platform with **Tesseract/OpenAI** for OCR, custom line-item segmentation, and a Streamlit frontend on AWS (S3, RDS) with Google OAuth
- Reduced query resolution from **minutes to seconds** by developing a **LangGraph-powered conversational agent** enabling natural language exploration of user-specific financial data with an interactive analytics dashboard

WinkCode: Eye-Blink to Morse Code Translator | *OpenCV, dlib, Python*

July 2024

- Enabled hands-free text input for accessibility by engineering a real-time eye-blink detection system with **OpenCV and dlib 68-point landmark tracking**
- Achieved **94% translation accuracy** by implementing timing algorithms for dot/dash classification, evaluated via Levenshtein distance, and automating keystroke output

TECHNICAL SKILLS

Programming Languages: Python, TypeScript, SQL, JavaScript, C/C++, Java

AI/ML: PyTorch, TensorFlow, NumPy, Pandas, OpenCV, Hugging Face, LangGraph/LangChain, LangSmith

Web Development & APIs: React, Next.js, Django, Flask, FastAPI, Streamlit, Tailwind CSS, REST APIs, Postman

Cloud, Databases & DevOps: AWS, GCP, Azure, PostgreSQL, ChromaDB, Docker, Git/GitHub, GitHub Actions