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EDUCATION

Vellore Institute of Technology

Aug'25–May'30

Integrated M.Tech. Artificial Intelligence & Bioinformatics | CGPA: 9.10/10

Relevant coursework (program curriculum): Fundamentals in AI & ML; Applied Machine Learning; Deep Learning; Fundamentals of Data Science in Bioinformatics; Bioinformatics; Algorithms for Bioinformatics; Biopython; Genomics; Proteomics; Computational Biology and Analytics; Cell Biology & Genetics; Molecular Biology and Genetic Engineering.

Sunbeam CBSE School — Class 12: 89.2% | 2025

Kola Perumal Chetty Vaishnav Sr. Sec. School — Class 10: 94.4% | 2023

EXPERIENCE

British Airways

Oct'26–Present

Data Science Job Simulation

- Apply data cleaning, preprocessing, exploratory analysis and feature engineering to airline customer-booking data in an ongoing data science job simulation.
- Develop and evaluate a **classification model** for **booking completion**; interpret factors associated with customer purchasing decisions.
- Translate analytical findings into customer-conversion and business-strategy insights within the simulation.

VIT Bhopal University

Jul'26–Present

Student Researcher (Part-time)

- Perform sample preparation, **Gram staining**, **microscopy** and **foundational tissue-culture** procedures under faculty mentorship.
- Maintain **aseptic conditions**, manage laboratory equipment and document experimental results.

Pawsitive Diagnostics

Feb'26–Present

Founder and CEO

- Lead **software**, **hardware** and **machine learning** development for a **wearable animal-health system**.
- Integrate **motion**, **acoustic**, **environmental** and **surface-temperature sensing** into **edge-to-cloud workflows**.
- Develop **signal filtering**, **individual baselines**, **activity recognition** and **context-aware anomaly alerts**.

Spendture

2025–Present

Founder and Product Developer

- Develop a **personal-finance product** focused on budget tracking and everyday spending decisions; translate user needs into **product requirements** and interface workflows.
- Coordinate product planning, **financial-management concepts** and implementation priorities for an early-stage fintech application.

ElectraWireless

May'26–Aug'26

Lead Intern, IoT & Embedded Systems

- Co-created and led engineering for **ELLY**, an **offline-first** smart-home ecosystem with a **React 19/TypeScript** dashboard, **energy telemetry**, **interactive floorplans** and **Capacitor** 8 mobile clients.
- Implemented local **Web-LLM** NLP and voice commands plus **TensorFlow.js/MobileNet** appliance scanning and facial recognition; integrated **Web BLE**, **Wi-Fi subnet discovery**, MQTT, WebSockets and REST/SOAP control.
- Designed mobile-first UI/UX with TailwindCSS v4 and TanStack Router; managed **GitHub Actions CI/CD** for automated iOS and **Capacitor** Android builds, and completed project code and asset handover.

TrustLayerLabs

May'26–Jun'26

Product Experience and Operations Intern

- Performed **product QA** and **bug validation** for an **AI cybersecurity platform**; documented workflows and coordinated **deployment** and **onboarding support**.

EXPERIENCE (CONTINUED)

Sequensolutions

Dec'25–Mar'26

AI and Bioinformatics Intern

- Used **AWS S3 and EC2** for sequencing-data storage and processing; worked on **variant-calling and RNA-seq** workflows with Python and Linux tools.
- Processed alignment outputs as BAM files and prioritized **candidate variants** with **functional annotation** and **consequence filters**.
- Analyzed public small-cell lung cancer sequencing data using **read quality control**, **GRCh38 alignment**, **variant annotation** and consequence filtering.

ENGINEERING AND SYSTEMS PROJECTS

Whisper for Windows | C#, WPF, Python, .NET

2026

- Built a **native Windows assistant** with a **WPF client**, Python service components and configurable local-model setup.
- Validated service and account logic with **112 Python tests** and **146 C# core assertions**; automated checks through **GitHub Actions**.

Portiva | Java, Python, C++, Android

2026

- Built shared **mission controllers** and an **Android bench demo** for a person-following delivery robot, including delivery, unloading, return and fault states.
- Implemented heading-aware **A* planning**, **swept-body collision checks** and an **authenticated request queue**; validated simulated workflows with physical motor output disabled.

SoftSpace and SoftFlex | CAD, Python, FEA

2026

- Developed **six adjustable headphone CAD variants** and a **glasses-aware cushion concept**, retaining design history, analysis source and traceable evidence.
- Audited **eight higher-order joint reference cases** and **mesh-displacement comparisons**; documented material assumptions and the physical tests still required.

Atlas Voice Assistant | Python, Speech Recognition, Automation

2023; updated 2026

- Developed **voice and text commands** for search, Wikipedia, time, media and allowlisted desktop applications; implemented **bounded sleep/wake behavior**.
- Separated optional voice dependencies from command logic and added **dry-run execution** plus **10 unit tests** for predictable offline verification.

LocationSense GNSS Mapping Backend | Python, FastAPI, SQLite, WebSockets

2026

- Built a coordinate-ingestion and mapping backend with persistent **SQLite storage**, **REST/WebSocket interfaces** and a **Leaflet map** for location telemetry.

LocationSense BLE Tracking Prototype | ESP32-C3, BLE, Android

2026

- Prototyped **BLE beacon and relay workflows** for **GPS-free location experiments**; recorded Android crowd-relay observations and documented platform limitations.

TECHNICAL SKILLS

Languages: Python, C, C++, C#, Java, JavaScript, TypeScript, SQL

Web and Frameworks: React, Next.js, Node.js, Express, TanStack, .NET/WPF, REST APIs, Tailwind CSS

Data and ML: NumPy, Pandas, SciPy, scikit-learn, LightGBM, XGBoost, ONNX

Cloud and Databases: AWS S3/EC2, Vercel, Supabase/PostgreSQL, Firebase, GitHub Actions

Tools and Systems: Git, Linux, MQTT, WebSockets, Android, Arduino, ESP32

Research and Engineering: OECD QSAR Toolbox, sequencing analysis, CAD, FEA, biosensing

Hardware and Embedded: ESP32-C3, Arduino, sensor integration, BLE, Wi-Fi, MQTT, WebSockets

Edge AI and Mobile: Web-LLM, TensorFlow.js, MobileNet, ONNX, Capacitor, Android

Bioinformatics: SRA Toolkit, FastQC, MultiQC, BWA, SAMtools, GATK, SnpEff/SnpSift

Wet Lab: Gram staining, microscopy, sample preparation, aseptic technique, foundational tissue culture

Product and Collaboration: Requirements, QA, bug validation, technical documentation, project coordination

COMPUTATIONAL RESEARCH PROJECTS

SCLC Somatic Variant Analysis  | BWA, SAMtools, GATK, SnpEff Dec'25–Mar'26

- Analyzed public sequencing data from accession ERR6473446 through **read quality control**, **GRCh38 alignment**, **BAM processing** and **variant analysis**.
- Used **functional annotation** and **consequence filters** to prioritize **candidate variants**; documented pipeline choices and interpretation limits.

KAN ECG Classification and Symbolic Fidelity | Python, ECG, Machine Learning 2026

- Developed a spline **Kolmogorov–Arnold network** on **12 engineered ECG features** and compared **feature-matched baselines** across MIT-BIH, INCART and SVDB cohorts.
- Evaluated **symbolic surrogates** against explicit **fidelity**, **sensitivity** and **complexity gates**; reported rejected candidates and **cross-dataset performance shifts**.

Zebrafish Formaldehyde Toxicity | Python, OECD QSAR Toolbox 2026

- Analyzed 96-hour mortality in **30 adult zebrafish** using Python, **Abbott correction** and **log-concentration/probit interpolation** with **endpoint sensitivity checks**.
- Integrated **six OECD QSAR Toolbox/literature reports**, source hashes and chemical depictions with tested JSON/SVG analysis outputs.

MotionSense AI Activity Recognition | Python, LightGBM, ONNX Aug'26–Present

- Built **LightGBM activity classifiers** from five-second motion windows; used **dog-held-out validation** across recordings from **45 dogs**.
- Prepared a walkthrough notebook and **ONNX export** helpers, keeping behavioral classification separate from disease-detection claims.

TemperatureSense AI Thermal Monitoring | ESP32-C3, Python, SHT40, NTC Jul'26–Present

- Developed baseline, filtering and **context-aware alert logic** for **surface-temperature and environmental sensor streams**.
- Added an attributed **45-row Labrador** thermal-reference table and processing code; kept rectal, gastrointestinal, infrared and collar-sensor measurements distinct.

RESEARCH PRACTICE

- KAN: froze preprocessing and decision thresholds before **external evaluation**; tested **symbolic surrogates** against joint probability-**fidelity**, **sensitivity** and **complexity gates**.
- Zebrafish: retained the **one-vessel-per-group design** and endpoint assumptions in reproducible outputs, with six chemical reports and **source-identity checks**.

FINANCIAL TECHNOLOGY AND DATA PROJECTS

CardSavvy  | React, TypeScript, TanStack, Zod 2026

- Built and deployed a **333-card** comparison prototype across **10 markets** with **explainable ranking**, filters and a browser-local wallet.
- Normalized **currency scoring**, corrected duplicate and invalid scores, and added **six regression tests** covering every card across all ranking categories.

NIFTY Paper Trading and Risk Analytics | Python, XGBoost, Upstox 2026

- Built a **restart-safe paper-trading system** with **market-data ingestion**, durable state, an **event journal** and a read-only monitoring dashboard.
- Compared regime and multi-expert models using walk-forward evaluation; retained deterministic volatility and risk rules for simulated entries.
- Implemented **defined-risk simulated positions**, fee estimates, stale-data checks and **drawdown controls** without broker order placement.

Finly Personal Finance  | React, TypeScript, Recharts 2026

- Built personal and shared **finance workspaces** with **monthly budgets**, categorized transactions, IOUs and **spending analytics**.
- Implemented **browser-local persistence** and **PDF reports** containing category charts, running balances and transaction breakdowns.

FINANCIAL TECHNOLOGY AND DATA PROJECTS (CONTINUED)

- SplitSmart Expense Splitter**  | Web Development, Real-Time Data 2026
- Built a lightweight group expense-splitting application with shared group links, expense recording and **real-time balance updates**.
- ATS Resume Job Fit Analyzer** | Python, Document Analysis 2026
- Implemented **TF-IDF and cosine similarity** using **Python and NumPy** to compare local resume/job-description text and identify **missing keywords**.

FINANCIAL SOFTWARE METHODS

- CardSavvy: use an **explainable heuristic score** rather than claiming a trained recommendation model; keep the comparison catalogue usable when optional external services are unconfigured.
- NIFTY: maintain **walk-forward research** separately from deployed **deterministic paper-entry rules**; retain fee estimates, stale-data handling and **restart recovery**.
- NIFTY: disabled model-gated paper entries after walk-forward testing and retained the model stack as research diagnostics alongside deterministic volatility and risk rules.

WEB APPLICATIONS AND ADDITIONAL PROJECTS

- AMOM A Map of Memories**  | React, TypeScript, Leaflet, Supabase Jan'26–Mar'26
- Built an interactive storytelling map with location search, clustered markers and real-time memory updates.
- CyberSHE WiCyS Hackathon** | React, TypeScript, Node.js, Express Sep'25–Oct'25
- Built a digital-safety platform prototype integrating **harassment-detection workflows**, privacy-oriented features and **emergency-support resources**.
- Lead Radar** | Node.js, GitHub Actions, Web Development 2026
- Built scheduled **lead aggregation, deduplication and rule-based qualification** with a browser dashboard and locally stored outreach tracking.
- LeadForge Pro** | Web Development, SerpApi 2026
- Built business-search and no-website filtering workflows with **personalized demo-site generation** and editable outreach templates.
- SkillNests** | React, TanStack, Firebase 2026
- Contributed to a learning platform with past-paper resources, notes, study sessions and community features backed by **Firebase authentication** and data storage.
- AI Mock Interviewer** | Next.js, React, Groq, Speech APIs 2026
- Built a conversational interview-practice application with **speech capture, configurable LLM responses and structured feedback** after a question sequence.
- SciGenius Research Paper Builder** | Python, spaCy, NetworkX, SQLite 2026
- Built a command-line research tool for **PDF entity/relation extraction, knowledge-graph construction** and outline generation with **SQLite progress checkpoints**.
- Smart Helmet Vision** | Python, YOLO, ONNX, Computer Vision 2026
- Built browser-local **helmet and traffic detection** with a **Python tracking and rule engine** for helmet use, triple riding and red-light stop-line crossing.
- Posture Detection** | JavaScript, MediaPipe Pose 2026
- Built browser-local posture feedback with **landmark validity checks, calibrated geometric features**, session tracking and slouch/lean counters.
- Personal Portfolio and Project Directory**  | Next.js, React, TypeScript 2026
- Built an interactive portfolio presenting experience, credentials and projects; maintain a GitHub project directory organized by technical field.
- A2Z Curriculum Tracker** | React, Vite, JavaScript 2026
- Built an A2Z-based **curriculum tracker** with **problem filtering**, bookmarks, notes, review flags and **browser-local progress persistence**.
 - Maintain a separate C++/Python algorithm-practice repository with documented solutions and a generated problem index.

WEB APPLICATIONS AND ADDITIONAL PROJECTS (CONTINUED)

- Moomentum Animal-Care and Sensor Prototypes** | React, TypeScript, Python, ESP32 **2026**
- Maintain animal-care interface prototypes and separate MotionSense, TemperatureSense, VitalSense, LightSense, PressureSense and SkinSense experiments.
 - Preserve dataset attribution and module validation limits; distinguish simulated interface data, behavioral classifiers and unvalidated sensor prototypes.

EARLIER WORK

- Original 2D Game** **Oct'23–Jan'24**

Independent Game Development

- Developed a custom 2D game with original mechanics, sound and difficulty progression; won **first place** in an inter-school competition.

- Bluetooth Home Automation** **Aug'22–Nov'22**

Embedded Systems Project

- Built an **Arduino and relay-based appliance-control prototype** with a mobile interface; placed **third** in an inter-school robotics competition.

- Personal Research Blog** **Jan'24–Jun'25**

Science Communication

- Used AI-assisted drafting and workflow automation to explore neuroscience, AI, health and social technology, with an emphasis on **research synthesis and science communication**.

LEADERSHIP AND SERVICE

- VIT Student Council** **Sep'26–Present**

Member Secretary – Technical

- Selected on **24 September 2026**; coordinate technical events and student initiatives under the Student Council.
- Liaise with technical clubs and university administration on permissions, schedules, resources and event reports.

- VIT Bhopal University** **2026–27**

Program Representative, Artificial Intelligence & Bioinformatics

- Selected to represent the AI & Bioinformatics branch for the 2026–27 academic year and communicate student ideas, concerns and suggestions.

- GSoC Innovators Club, VIT Bhopal** **Jun'26–Present**

Technical Core Member

- WiCyS Student Chapter, VIT** **Dec'25–Present**

Secretary

- Coordinate chapter meetings, internal communication and **cybersecurity awareness** activities.

- The FinTech Club, VIT** **Dec'25–Present**

Core Member, Technical Market Analyst Team

- Analyze market trends and **financial data**, and contribute **technical insights** to club reports, discussions and activities.

- VITERA Club, VIT** **Dec'25–May'26**

Core Member, Event Management

- Supported **event planning**, logistics, coordination and promotional activities.

- Udghosh, IIT Kanpur** **Jul'25–Oct'25**

Campus Ambassador

- Supported campus outreach and digital promotion for IIT Kanpur events.

- DMUN Model League of Nations** **Sep'25–Oct'25**

Delegate of Singapore

- Researched policy questions and represented Singapore in diplomatic discussion and cross-cultural collaboration.

LEADERSHIP AND SERVICE (CONTINUED)

Internshala

Aug'25–Oct'25

Student Partner

- Supported campus marketing, workshops and communication with students and faculty.

Sunbeam CBSE and Matric Schools

Nov'23–May'25

Student Council Member

- Supported **student advocacy**, school events and student-led campus initiatives.
- Delivered a welcome address at a school event as part of student leadership and public speaking.

ACHIEVEMENTS

- CyberShield Hackathon 2025, VIT — **First Place**.
- SKITECH National Innothon 3.0, Indore — **First Runner-Up**, national level.
- SASI National Hackathon 2026, Andhra Pradesh — **Top 6**, national level.
- National Science Talent Search Examination — **State Rank 2**.
- All India Maths and Science Talent Examinations — **All India Rank 933**.
- International English Olympiad, SOF — School Rank 3; Zonal Rank 25; Regional Rank 34; **All India Rank 44**.
- National Cyber Olympiad, SOF — School Rank 1; Zonal Rank 44; Regional Rank 137; **International Rank 238**.
- Build With Bharat, NIT Delhi, 2026 — selected among **25 virtual-round teams** with Pawsitive Diagnostics.
- Zuup Far Away 2026 — qualified for the **online MVP-submission round** with Pawsitive Diagnostics.

CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

- NPTEL** — Introduction to Machine Learning | Oct'26.
- Vityarthi** — Fundamentals of AI and ML | Sep'26; Python Essentials | Nov'25; Digital Literacy | Feb'26.
- Kaggle** — Introduction to Machine Learning | Sep'26.
- Anna University** — Fundamentals of PCB Design | Aug'26.
- Keysight Technologies** — Quantum Computing Workshop | Dec'25.
- M.P. Council of Science & Technology** — Numerical & Optimization Techniques for Machine Learning in Real-World Applications Workshop | Feb'26.
- Udemy** — GitHub Ultimate: Master Git and GitHub – Beginner to Expert | Aug'25.
- UiPath and GeeksforGeeks** — Build Smarter, Scalable AI Agents | 2026.
- VIT Bhopal ACM Student Chapter** — Responsible AI: Reimagining AI for All | Sep'25.
- Institution's Innovation Council** — Entrepreneurship Mindset for Young Innovators | Dec'25.
- Additional credentials** — National Financial Literacy Quiz 2026; Samsung Solve for Tomorrow 2026.
- Alliance Française of Madras** — DELF A2 French | Jan'20; French A1 | Jul'19.
- SEBI NISM** — Investor Awareness | 2026.
- Vigyan Sarvatra Pujyate** — Valedictory Quiz Certificate | Feb'22.

VOLUNTEERING AND MEMBERSHIPS

Unnat Bharat Abhiyan, VIT Bhopal

Jan'26–Present

Volunteer

Arvind Foundation

Mar'23–Apr'23

Student Volunteer

- Supported activities for people with intellectual and developmental disabilities, including movement, communication and confidence building.
- Led adapted games, storytelling and cricket activities to encourage participation, expression and teamwork.

Computer Society of India

Mar'26–Jan'27

Member

Languages: English, Hindi, Tamil and Telugu; French (DELF A2); German (basic).