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EDUCATION

Vellore Institute of Technology

Aug'25–May'30

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

EXPERIENCE

British Airways

Oct'26–Present

Data Science Job Simulation

- Undertake a self-paced virtual data science simulation focused on **customer insights and predictive analytics** for airline business decisions.

VIT Bhopal University

Jul'26–Present

Student Researcher (Part-time)

- Perform **Gram staining, microscopy** and aseptic sample preparation under faculty mentorship.

Pawstitive Diagnostics

Feb'26–Present

Founder and CEO

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

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.

PROJECTS

SCLC Somatic Variant Analysis

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

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

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.
- Documented **one-vessel-per-group limits** and **endpoint assumptions** in reproducible analysis outputs.

MotionSense AI Activity Recognition

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.

TECHNICAL SKILLS

Programming and Analysis: Python, C++, SQL, NumPy, Pandas, SciPy, Linux

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

ML and Evaluation: scikit-learn, LightGBM, XGBoost, ONNX, cohort evaluation, symbolic fidelity

Research Methods: Feature engineering, baseline comparisons, sensitivity analysis, reproducible workflows

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

Tools and Infrastructure: OECD QSAR Toolbox, AWS S3/EC2, Git, GitHub Actions, Docker

LEADERSHIP AND ACHIEVEMENTS

WiCyS Student Chapter, VIT — Secretary | Dec'25–Present

- 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.