Verril Vaz

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Professional Summary

Computer Science undergraduate focused on AI systems, machine learning infrastructure, and performance-oriented software development. Experience building research-backed ML tools, GPU-focused runtime projects, and real-world applications used by live users. Strong interest in systems engineering, developer tooling.

Technical Skills

Languages: Rust, Python, Java, JavaScript, C, SQL
AI/ML: PyTorch, Machine Unlearning, Model Optimization, Gradient Methods, ML Privacy
Systems: GPU Compute Pipelines, Parallel Processing, Memory Management, CLI Tooling
Web/Backend: React.js, Next.js, Node.js, Express.js, Flask, REST APIs, JWT Auth
Databases & Tools: PostgreSQL, MongoDB, Docker, Git

Research and Publications

Machine Unlearning via Fisher-Constrained Weight Manipulation - Citable Research Artifact (DOI)
Conducted applied research in machine learning privacy by designing a surgical unlearning pipeline capable of removing the influence of poisoned or sensitive data from trained neural networks without requiring full model retraining. Developed a Fisher Information–guided weight sensitivity profiling method combined with constrained reverse optimization to enable targeted knowledge erasure while preserving clean-data performance. Published the work as a reproducible research artifact with complete execution and documentation.

Featured Projects

- **Zero-Dependency GPU AI Inference Engine (Rust • Systems Engineering • GPU Compute)**
  Building a high-performance, single-binary AI inference runtime that executes neural networks locally without Python environments or CUDA setup. Engineers a cross-platform GPU compute pipeline with custom parallel tensor kernels, optimized for ultra-fast startup, low memory usage, and seamless edge-device deployment via professional CLI tooling.
- **verril-learn - Open-Source Machine Unlearning Library (Python • PyTorch • ML Infrastructure)**
  Developed and published a research-backed ML privacy library that enables selective removal of sensitive or poisoned data from trained neural networks without full retraining. Applied Fisher-constrained gradient optimization for precise knowledge erasure while preserving clean-data accuracy, packaged as a production-ready developer tool.
- **Founder & Lead Developer | Vexa: Donate & Help (Live on Google Play Store)**
  Founded and launched a production mobile platform that connects donors with verified NGOs to enable zero-money charitable logistics. Led end-to-end product engineering across backend systems, database architecture, and deployment, delivering a transparent, real-world donation workflow used by live users.

Work Experience

Dev Creations & Solutions, Bengaluru Apr 2025- Jun 2025

Web Developer
Contributed to development of production-grade web applications with focus on backend reliability, API design, and secure authentication workflows. Developed and tested REST APIs to ensure stable client–server communication, enforced JWT-based authentication and session management, and resolved frontend–backend integration issues through structured debugging. Improved cross-device responsiveness, optimized request handling, and enhanced overall application performance and usability.

Education

REVA University (Graduating Batch: 2027) 2023-Present
B.Tech in Computer Science and Engineering ***CGPA:9.33/10***
Coursework: Data Structures & Algorithms, Operating Systems, DBMS, Computer Networks, Machine Learning

Leadership and Achievements

Founder & President-Team Sahayak Foundation (NGO): Founded and lead a social-impact nonprofit focused on community support initiatives, volunteer coordination, and grassroots relief programs.

Smart India Hackathon Finalist (Government of India): Selected among 50,000+ teams nationwide to develop an engineering solution during a 5-day national innovation sprint.

President, Cybersecurity Club - REVA University (2026–Present): Led technical workshops and campus-wide cybersecurity initiatives