europass

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ABOUT ME

Final-year B.Tech student in Computer Science (AI and Robotics) at VIT Chennai, focused on applied cryptography, Linux systems and AI for cybersecurity. Built encrypted file-transfer and GPU password-auditing tools; researching authenticated steganography and robotic task planning. Published Tamil NLP research and placed third in the DravidianLangTech@ACL 2026 shared task.

EDUCATION AND TRAINING

B.Tech, Computer Science (AI and Robotics) — expected 2027

VIT Chennai [2023 – Current]

Class 12, CBSE Board

Kendriya Vidyalaya IIT Chennai [2023]

Class 10, CBSE Board

Kendriya Vidyalaya IIT Chennai [2021]

PROJECTS

SecureGeoCrypt | Context-aware encrypted file transfer

Paper submitted to ICADCML 2027

• Built a React/Flask file-transfer system with ECDH (P-256), HKDF-SHA-256 and ChaCha20-Poly1305 authenticated encryption.
• Added geofence and time-window checks with hash-verified recovery; deployed on Vercel and Render.
• Tested six scenarios covering access, location/time checks, override secrets and incorrect keys.

Distributed GPU Password-Auditing Framework

• Built an authorised password-auditing system with CUDA C++17 kernels, Python bindings, CPU fallback and partitioned search.
• Added priority scheduling, heartbeats and failover using FastAPI, Redis/RabbitMQ, PostgreSQL and Docker, plus live job/GPU telemetry.
• Passed 24 automated tests and recovered 3/3 demonstration hashes on an RTX 4050 laptop GPU.
View project repository

Glitchix OS

Built a custom Linux distribution from source following Linux From Scratch (LFS) v13.0-systemd, developing practical experience in Linux system construction and administration.
View project repository

ASCF-AW | Adaptive Stego-Crypt Framework with Authenticated Watermarking
Ongoing research and manuscript preparation
• Developing an encrypted image-steganography framework combining AES-256-GCM, HKDF key separation, key-derived pixel ordering and HILL-cost syndrome-trellis coding.
• Implemented texture-adaptive STDM watermarking and a Reed-Solomon-protected robust mode; verified 300/300 exact round trips, with 20-byte capacity at 512 × 512 resolution.
• Audited nonce/counter handling and receiver timing; reduced the measured rejection-time gap from approximately 83 ms to 2 ms. Evaluation separates confidentiality, protocol security, watermark robustness and detectability; statistical undetectability is not claimed.

Final-year thesis | Hybrid Vision-Language-Action Control
An Instruction Router and an Ordered Decomposition Loop for Hybrid Vision-Language-Action Control
B.Tech final-year project | LIBERO-Object simulation
• Built a modular pipeline combining a MiniLM text router, a DINOv3-based vision-language router, Qwen2.5-3B task decomposition and a pretrained TurboVLA policy, with bounded retries and replanning.
• Compared five routing configurations using recorded outcomes across 150 simulated episodes: hybrid R2 and LLM-always each achieved 93.3% success, versus 87.3% for fast-only. The study evaluated trade-offs rather than consistent superiority.
• Ran scene-disjoint audits across five seeds and strict plan evaluation on 84 instructions. Identified visual generalisation limitations when shuffled-scene R2 AUC fell to 0.477; strict all-criteria plan correctness was 56.0%.

MCA² | Local reproduction of multi-view text anomaly detection
PyTorch, sentence-transformers, Hugging Face, PyOD, Streamlit
• Recreated multi-view autoencoders, contrastive collaboration and adaptive view allocation using three local embedding models, without paid embedding APIs.
• Evaluated 10 datasets across five seeds against seven baseline methods per embedding view. Measured mean AUROC of 0.6502 and documented the gap from the source paper; delivered a Streamlit demo and comparison dashboard.View project repository

GraphemeAware-Tamil-Abuse-Detection
Developed transformer-based detection of abusive Tamil text targeting women using grapheme-aware normalisation; achieved third place in the DravidianLangTech@ACL 2026 shared task and co-authored the associated workshop paper.
View project repository

MADAR | Continual learning for malware analysis
Research reproduction | Python, PyTorch, scikit-learn
• Implemented family-level replay sampling with Isolation Forest to select representative and anomalous malware feature vectors.
• Added memory-mapped dataset converters, resumable runs and seed controls. Benchmarking remains in progress.
View project repository

WORK EXPERIENCE

Zerofence Technology Services

Product design and frontend development

[06/2026 – 07/2026]

Contributed to the core product team for Katral Academy, a collaborative online education platform.
Led end-to-end product design and mapped the user experience.
Developed the frontend architecture for the landing page and key user interface components.

Siara Technology

3D application development

[05/2026 – 06/2026]

Developed a 3D liftoff feature for IntoAEC, the company's flagship product.
Built an application that converts 2D floor plans into interactive 3D models.

Satori XR Pvt. Ltd.

AI assistant development

[05/2025 – 06/2025]

Developed a custom AI assistant extension for Blender to streamline design workflows.
Adapted and implemented the AI assistant functionality for WebGL environments.

ORGANISATIONAL & MANAGERIAL SKILLS

Student leadership | Academic year 2024-2025

Social Media Lead - Socrates Club, VIT Chennai

Philosophy club | 2024-2025

Technical Lead - Game Development Club, VIT Chennai

2024-2025

PUBLICATIONS

[2026]

HNK@DravidianLangTech 2026: Investigating Grapheme-Level Normalization for Abusive Tamil Text Classification

Authors: R, Hanish Vigneshwar et al. | **Journal Name**: Sixth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages | **Volume, Issue and Pages**: pp. 258–262 | **Publisher**: Association for Computational Linguistics

SecureGeoCrypt: A Geo-Fenced, Time-Bound Secure File Transfer System Using ECDH-Based Dynamic Key Derivation with an Override Mechanism Submitted to ICADCML 2027.

Journal Name: ICADCML 2027

ASCF-AW: Adaptive Stego-Crypt Framework with Authenticated Watermarking In progress: ongoing research and manuscript preparation.

TECHNICAL SKILLS

Security, software and research tools

Applied cryptography: ECDH, HKDF, AES-GCM, ChaCha20-Poly1305, password auditing, key/nonce management, steganography and watermark evaluation.

Programming, systems and deployment: Python, C++/CUDA, C#, Java, JavaScript, Bash, Linux/LFS; FastAPI, Flask, React, SQL/PostgreSQL, Redis, RabbitMQ, Docker, Kubernetes, Git and CI/CD.

AI and research: PyTorch, TensorFlow, Hugging Face, scikit-learn, sentence-transformers, PyOD, Pandas and NumPy; NLP, anomaly detection and reproducible evaluation.

Security operations and forensics: Foundational SIEM/IDS, network monitoring, firewalls, vulnerability assessment and incident triage; coursework in Windows/Registry and mobile forensics, evidence handling and AI security.

Identity, cloud security and governance: IAM, secrets management, Azure identity, Microsoft Defender, cloud posture, VM/Linux security and automation; governance, risk, compliance and controls.

Control systems and space technology: PID tuning, autonomous navigation, CanSat ground-control design; introductory drone/CanSat/CubeSat systems, remote sensing and GIS.

CERTIFICATES AND TRAINING

Professional development

Microsoft Cybersecurity Analyst Professional Certificate

Microsoft (Coursera) | 9 November 2026

CompTIA Security+ (SY0-701): The Total Course - Specialization

Packt (Coursera) | 9 November 2026

AI for Cybersecurity Specialization

Johns Hopkins University (Coursera) | 9 November 2026

Computer Forensics Specialization

Infosec (Coursera) | 7 November 2026

Cyber Security: Essentials for Forensics Specialization

Macquarie University (Coursera) | 7 November 2026

Cybersecurity Attack and Defense Fundamentals Specialization

EC-Council (Coursera) | 25 October 2026

Google Cybersecurity Professional Certificate

Google (Coursera) | 16 October 2026

Agentic AI

IBM | July 2026

CO-CURRICULAR CERTIFICATIONS & COURSES

Additional training

Summer Internship & Technical Training Program 2026

India Space Lab | 1-18 May 2026

Game Development

SmartED Innovations | May-August 2025

Entrepreneurship

NPTEL | November 2024

Electronic Keyboard - Trinity Level 3

Trinity

HONOURS AND AWARDS

[07/2026] DravidianLangTech@ACL 2026
Third Place | DravidianLangTech@ACL 2026 Shared Task
Abusive Tamil Text Classification

LANGUAGES

Language proficiency

English - Fluent

Tamil - Fluent

Hindi - Fluent

German - A2, uncertified

Japanese - N5, uncertified

HOBBIES

Creative interests, sport and reading

Music: Playing the electronic keyboard, listening to music and creating music with AI.

Sport: Volleyball, football and cricket.

Games and collecting: Developing hypercasual games and collecting Pokémon cards.

Reading: Medical case studies, literature studies and technology case studies.

AREAS OF INTEREST

Security, AI and systems

Applied cryptography and secure systems; malware analysis and continual learning; digital forensics and AI-assisted threat detection; Linux and distributed computing; robotics and vision-language-action systems.