

Lakshyajeet Singh Jalal

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ACADEMIC DETAILS

Year	Degree	Institute	GPA/Marks(%)
Jul 2026 - Jun 2028	M.TECH (CSE)	International Institute of Information Technology	-
Aug 2022 - Jun 2026	B.TECH (CSE)	Graphic Era Hill University Haldwani Campus	9.23
Jul 2022	12 th CBSE	Aryaman Vikram Birla Institute of Learning	94.8
Mar 2020	10 th CBSE	Aryaman Vikram Birla Institute of Learning	93.6

TECHNICAL SKILLS

- **Languages & Scripts:** C, Dart, Python, Shell (bash, pwsh), JavaScript/TypeScript, HTML5, Markdown/MDX, LaTeX, Mermaid, Regex
- **Database:** SQLite/LibSQL, MySQL/MariaDB, Postgres, Redis, Supabase, Appwrite, Convex
- **Libraries & Frameworks:** Flutter, AstroJS, Svelte / SvelteKit, TailwindCSS, Tkinter, FastAPI, ORMs (Drizzle, Pydantic/SQLModel)
- **Tools and Services:** Git, Nix, GitHub/GitLab (Actions, Workflows & Pages), VSCode/Zed, Docker/Podman, VPS, Cloudflare
- **Hardware:** SBCs (Raspberry Pi, Tinker board), Micro-controllers (Arduino, ESP32, RPi Pico), Homelab (NAS, ZFS, TrueNAS, Cloudflare Tunnels), Networking (Managed Switches, SFP Fibre Optic, DNS, Reverse Proxies)
- **Design:** Adobe Illustrator, Adobe Photoshop, Adobe Premiere, Affinity

TEST SCORES

- **GATE (CS) Feb 2026**
 - Score: 678
 - Marks: 58.01
 - AIR: 1489
- **GATE (CS) Feb 2025**
 - Score: 622
 - Marks: 55.89
 - AIR: 2678
- **PGEE (CS) May 2026**
 - Marks: 58.50
 - AIR: 108

PROGRAMMING PROJECTS

- **PYQs Archive** (Repository & Website)
(Jan'23 - till date)
 - A community driven repository and website for previous year question papers at Graphic Era Hill University Haldwani. Serves students across semesters with a searchable archive. Actively maintained with ongoing student contributions.
 - Website: <https://gehuwaldwani.in/pyqs>
 - Technologies: Astro JS, Python, Cloudflare Workers, GitHub Actions & Pages
- **Lox** (Interpreter)
(Jan'25 - May'25)
 - Implemented a complete tree-walk interpreter for the Lox programming language (from Crafting Interpreters), covering lexing, parsing, AST evaluation, scoping, closures, and error handling. Built twice, first in Java following the book, then ported to Dart independently.
 - GitHub Repo: <https://github.com/mglsj/lox>

- Technologies: Java, Dart
- **Labshare** (Network File sharing)
 (Apr'25)
 - Designed and built a decentralised, torrent-style file sharing protocol and application from scratch using raw TCP/UDP sockets. Implemented chunked transfer, peer discovery, and a Flutter-based UI. No third-party P2P library used.
 - Github Repo: <https://github.com/labshare>
 - Technologies: TCP, UDP, Sockets, Flutter, Dart
- **TeabagCSS** (CSS library)
 (Apr'25)
 - A Tailwind and Material 3 inspired CSS library written in SCSS, published to npm. Designed for clean utility first styling with a Material Design 3 aesthetic. Includes a live demo site.
 - Npm: <https://www.npmjs.com/package/teabagcss>
 - Demo Site: <https://mglsj.eu.org/teabagcss/>
 - Github Repo: <https://github.com/teabagcss>
 - Technologies: CSS, SCSS
- **Simple NCERT** (eLearning Resource)
 (Dec'24 - Jan'25)
 - A reimagined NCERT eBook reader focused on accessibility, full text indexability, and localisation. Runs Python in-browser via Pyodide and WebAssembly, with an x86 emulator (v86) for interactive content.
 - GitHub Repo: <https://github.com/mglsj/simple-ncert>
 - Website: <https://mglsj.eu.org/simple-ncert>
 - Technologies: Astro, Typescript, WebAssembly, Pyodide, v86
- **Raspberry Pi 3 Kernel** (OS Kernel & GPU Terminal)
 (Aug'24 - Dec'24)
 - Built a multiprogramming OS kernel from scratch for the Raspberry Pi 3B+ in C and ARM Assembly. Implements a FAT16 filesystem, GPU framebuffer rendering, an interactive terminal, and basic process scheduling.
 - GitHub Repo: https://github.com/mglsj/os_kernel
 - Technologies: C, Arm Assembly, Make
- **QR Earth** (Mobile Application & Backend)
 (Jul'23 - Nov'24)
 - A mobile app to incentivise plastic bottle recycling on the GEHU Haldwani campus via QR-code based reward tracking. Backend built with Python/FastAPI and PostgreSQL on Azure with Redis caching; mobile client in Flutter/Dart.
 - Google PlayStore id: [org.eu.mglsj.qr_earth](https://play.google.com/store/apps/details?id=org.eu.mglsj.qr_earth)
 - Github Repo: <https://github.com/qrearth>
 - Technologies: Python, FastAPI, Dart, Flutter, PostgreSQL, Azure, Redis
- **Visual Graphs** (Web Application)
 (Jun'24 - Jul'24)
 - Interactive graph algorithm visualiser (BFS, DFS, Dijkstra, etc.) built with Flutter, Dart, and the Flame game engine, compiled to WebAssembly for the browser.
 - Demo: https://mglsj.eu.org/visual_graphs
 - Github Repo: https://github.com/mglsj/visual_graphs
 - Technologies: Dart, Flutter, Flame Game Engine, WASM
- **MOS6502 CPU Emulator** (Emulator)
 (Feb'24 - Jun'24)
 - A fully interactive emulator for the MOS 6502 processor (the CPU behind the Apple II, NES, and Commodore 64). Includes an integrated code editor, assembler (via VASM), memory viewer, and instruction disassembler. Built in Flutter/Dart with C++ bindings.
 - Github Repo: https://github.com/mglsj/6502_emulator_flutter
 - Technologies: Dart, Flutter, VASM, C++

- **BT-P1C0 (IoT)**
(Sep'22 - Dec'23)
 - Open source GPS asset tracker and management portal built on Raspberry Pi Pico with MicroPython. Communicates position data over MQTT to a web portal for live tracking. Designed for low cost vehicle and equipment monitoring.
 - Github Repo: <https://github.com/BT-P1C0>
 - Technologies: Raspberry Pi Pico, MicroPython, MQTT
- **Map-Haldwani** (Community Effort & Web Portal)
(Nov'20 - Jun'22)
 - A civic initiative to map every road and locality of Haldwani city on OpenStreetMap, a city that was largely unmapped at the time. Contributed 1,200+ road edits and built an interactive web app for local navigation using Mapbox and Mapillary.
 - Github Repo: <https://github.com/map-haldwani>
 - Technologies: HTML/CSS/JS, Mapbox, Mapillary

CERTIFICATIONS

- **Introduction to Networking**
Nvidia, Coursera (Mar'25)
- **Raspberry Pi: Write Your Own Operating System Step by Step**
Udemy (Nov'24)
- **Tiny Machine Learning (TinyML)**
Harvard University, edX (Jul'24)
- **CS50t | CS50's Introduction to Technology**
Harvard CS50 (Apr'24)
- **OM Guru Network Training**
Humanitarian OpenStreetMap Team (Mar'24)
- **CS50p | CS50's Introduction to Programming with Python**
Harvard CS50 (Feb'24)
- **Networking Essentials**
Cisco Networking Academy (Dec'23)
- **CS50x | CS50's Introduction to Computer Science**
Harvard CS50 (Nov'23)
- **LFS101x: Introduction to Linux**
The Linux Foundation, edX (Oct'23)

ACHIEVEMENTS

- **BUILD FOR GEHU 2025**
1st Rank
WeCode (Apr'25)
 - Built LabShare, a decentralized file sharing system.
- **CS50x Puzzle Day 2025**
9/9 Puzzles solved
Harvard CS50 (Apr'25)
- **24 Hour Hackathon**
1st Rank
Tech Geeks GEHU (Mar'25)
 - Built a hardware based phone tracker, to monitor student movement and mark attendance.

- **Certificate of Outstanding Achievement**
Academics
Graphic Era Hill University (*Apr'23*)
- **Appathon 2022 (Competitive Programming)**
1st Rank
Tech Geeks GEHU (*Aug'22*)
 - 1st rank in combined 1st & 2nd year category
 - The only first year student to qualify for finals

PARTICIPATION

- **HACK ERA CTF | GRAFEST 2025**
Graphic Era Deemed to be University (*May'25*)
 - Ranked 5th amongst 100+ teams
- **Techsprint 48 | GRAFEST 2025**
Graphic Era Deemed to be University (*May'25*)
 - Finalist in among 500+ teams
 - Built a BLE based 3D spatial tracker for crowd management
- **Code Craft 2025**
WeCode (*Apr'25*)
 - Competitive Programming competition.
 - Amongst top 10 participants.
- **RVCExIITB CTF**
RV College Of Engineering (*Jun'24*)
 - Ranked under 100 amongst 1000+ teams
- **Code Crusade 2024**
GEU IEEE Student Branch (*Mar'24*)
- **The Art & Science of Hardware Hacking**
Cyber Security Club, Graphic Era Hill University (*Sep'23*)
 - Cyber Security Workshop
- **1st International Conference on Advanced Computing and Information Science (ICACIS-2023)**
Graphic Era Hill University (*Aug'23*)
 - Attended the conference
 - Served as IT lead for the event
- **Global Pitch Fest Competition 2023**
TiE Dehradun (*Mar'23*)
 - Pitched at State Level
 - Only team comprising 1st year students
 - Presented BT-P1C0 Project
- **NAVIKARNAM 2023**
National Institute of Technology (*Feb'23*)
 - Finalist amongst 150+ teams
 - Only 1st year team to qualify for finals
 - Presented BT-P1C0 Project
- **5th Technovation Hackathon (STREPC)**
Sharda University (*Feb'23*)

- **Tech Wizard 2.0**

Graphic Era Deemed to be University (*Dec'22*)

- Finalist amongst 2500 students from 4 campuses
- Ranked in top 10.

VOLUNTEERING

- **OpenStreetMap (OSM)**

(*Nov'20 - Present*)

- Active Contributor Associate Member

- **Eco Club GEHU**

(*2023 - 2025*)

- Club Member
- Participated in various awareness and cleanliness drives.

- **Humanitarian OpenStreetMap Team (HOT)**

(*2022 - 2024*)

- Disaster Relief Volunteer

- **Haldwani Online Sanstha (HOS)**

(*Sep'22 - Mar'23 & Feb'25 - Mar'25*)

- "Annadhara Muhim" Volunteer
- Distributed food in government hospitals.

- **Roshan Duniya**

(*2021 - 2022*)

- Participated in cleanliness and donation drives.