

Education

BTech, Computer Science and Engineering, Indian Institute of Technology Goa	CGPA: 8.12/10	Aug 2023 - Present
Class 12, CBSE, Fortune Convent School	Aggregate: 87.2%	Apr 2021 - May 2023

Experience

Software Engineering Intern - Google

(May 2026 - Present)

- Engineered the host-controlled haptic touchpad architecture for Android on Chromebooks, migrating control logic from firmware to the OS for a global Q1 2027 launch.
- Developed stateless C++ *EventHub ioctl* bindings to process raw force data, triggering low-latency, palm-rejected physical haptic clicks.
- Built fault-tolerant fallback mechanisms for system suspend/resume cycles and driver failures, ensuring zero regressions in touchpad availability.
- Collaborated with Android Framework and ChromeOS teams to define cross-platform system architectures and integrate shared gesture libraries.

Projects

Beam-ACO for Data Collection in Heterogeneous Wireless Sensor Networks [\[GitHub\]](#)

(Nov 2024 - Jan 2025)

- Developed a hybrid Beam-Search and Ant Colony Optimization algorithm to solve NP-hard mobile sink path planning, improving energy efficiency by 15-20% and maintaining 95%+ constraint satisfaction.
- Optimized vehicle routing with real-time traffic and weather data, reducing delivery times by 18 minutes and boosting on-time rates to 97%.
- Implemented the solution pipeline in Python with NumPy for matrix computations, advanced pheromone updates (lexicographic ranking), and dynamic visualizations for performance analysis.

CompFinance: Quantitative Financial Strategy Backtesting [\[GitHub\]](#)

(Sep 2024 - Nov 2024)

- Built a modular high-frequency trading pipeline using yfinance, Pandas, and Matplotlib to process tick-level data; achieved a Sharpe ratio of 1.8 and a profit rate of 1.4%.
- Implemented dynamic position sizing and stop-loss mechanisms, slashing portfolio volatility by 35% while preserving returns.
- Backtested 5,000+ scenarios across diverse market regimes, attaining 89% strategy consistency and a 42% reduction in false signals.

Skills

Programming Languages:

Python, C, C++, Dart, HTML, CSS, Bash, VHDL, Verilog, JavaScript, MIPS Assembly, LaTeX

Libraries & Tools:

NumPy, Pandas, Matplotlib, TensorFlow, Scikit-learn, Git, VS Code, yfinance, RESTful APIs

Core Competencies:

Data Structures and Algorithms, Machine Learning, Predictive Modeling, Backtesting Pipelines

Coursework:

Algorithms, Data Structures, Digital Design, Computer Organization, Machine Learning, Computer Networks, Computer Architecture, Probability and Statistics, Discrete Structures, Analog Circuits

Positions of Responsibility

Core Member, Google Developer Student Clubs (GDSC)

Directed 3 hackathons and 5 technical workshops, attracting 150+ participants to learn Android and Cloud computing.

(Oct 2024 - Present)

Core Member, Gomyno Club (Coding Club)

Facilitated bi-weekly coding challenges and coached 12 juniors, resulting in 4 podium finishes at inter-college contests.

(Oct 2024 - Present)

Mentor, Student Mentorship Program

Selected for two consecutive years to guide 9 incoming students through their academic and campus transitions.

(Aug 2024 - Present)

Achievements

- Competitive Programming: Specialist** on [Codeforces](#) (Rating: 1504); secured AIR 264/13,000+ in Round 1019. Solved 500+ algorithmic problems across platforms.
- 1st Place, Game of Codes:** Outperformed 150+ participants by designing a real-time path-finding algorithm at IIT Goa's flagship intra-college coding contest.
- JEE Advanced 2023:** Secured an All India Rank of **3498** out of 150,000+ candidates in the first attempt.

Extracurriculars & Hobbies

- Competitive sports: Secured top positions in various inter-school and district-level badminton and cricket tournaments.