



ABISHEK THIRUNAVUKKARASU



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PROFESSIONAL SUMMARY

Electronics and Communication Engineering graduate from SASTRA University with a strong foundation in software development, data structures & algorithms, and database management systems. Eager to begin a career in software engineering and contribute to delivering quality technology solutions in a dynamic and collaborative environment.

EDUCATION

B.Tech in Electronics and Communication Engineering	SASTRA University - CGPA 6.5081	2021 - 2026
Higher Secondary Certificate - HSC Grade 12	Don Bosco School - 87%	2021

TECHNICAL SKILLS

Programming Languages: Advanced Java (Stream API, Multithreading, Generics, Memory Management), Python.

Data Structures & Algorithms: Arrays, Linked Lists, Trees (BST, AVL, Red-Black), Graphs (BFS, DFS, Dijkstra), Dynamic Programming, Sorting/Searching, Time-Space Complexity Analysis (Big O).

Databases & SQL: Relational Databases, Advanced SQL (Window Functions, CTEs, Correlated Subqueries), Normalization (1NF to BCNF), Transaction Management (ACID, 2PL).

Software Engineering: Object-Oriented Programming (OOP), Exception Handling, File I/O, Serialization, Git

Soft Skills: Analytical Thinking, Problem Solving, Technical Documentation, Cross-Functional Collaboration.

PROJECTS

Cognitive Human Interactive Technological Intelligence (CHITI). [link to github](#) **2026**

- Developed the core software architecture for an interactive robotics platform using Python, orchestrating concurrent processes for sensory input and output.
- Programmed a real-time tracking algorithm leveraging computer vision libraries to process visual data with sub-100ms latency.
- Integrated the OpenAI real-time voice API via Wi-Fi to establish a seamless, cloud-based natural language processing pipeline.
- Implemented robust serial communication protocols (UART) to ensure synchronized data exchange between the central processing unit and edge modules.

Early Diagnosis of Autoimmune Skin Conditions using Neural Networks. [link to github](#) **2025**

- Built and trained a deep learning neural network model tailored for the automated classification of medical imaging datasets.
- Developed data preprocessing pipelines using Python (NumPy, TensorFlow) to clean, normalize, and augment image data.
- Optimized the machine learning algorithm to enhance prediction accuracy and reduce false positives in diagnostic outcomes.
- Evaluated model performance using standard statistical metrics to validate its efficacy and computational efficiency for early-stage detection

Flight Computer for Model Scale Rockets. [link to github](#) **2024**

- Engineered the firmware for a real-time data acquisition system, reliably processing high-frequency telemetry streams from multiple connected sensors.
- Designed and implemented a closed-loop control algorithm to dynamically adjust flight parameters based on continuous real-time data feedback.
- Developed an onboard data-logging module to efficiently write and serialize telemetry data to local storage for post-flight analysis.
- Created a companion mobile application utilizing REST APIs to facilitate remote monitoring and wireless configuration of the system

PORTFOLIO

Designed and deployed a custom portfolio website from scratch to effectively highlight professional milestones and project portfolios. Wrote clean, semantic HTML and modular CSS to ensure cross-browser compatibility and strict adherence to web accessibility standards. [Click here : abishek.in](#)