AZIF NIZAM

Embedded Software Developer

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CAREER OBJECTIVE

Embedded Software Developer with strong proficiency in C and C++, hands-on experience in system-level programming, data structures, and embedded projects involving file I/O, memory management, and microcontrollers. Actively seeking an entry-level embedded or software engineering role.

SKILLS

- **Programming**: C, C++
- **Embedded Systems:** ESP32
- **OS Concepts:** RTOS basics, Linux Internals basics
- **Core CS:** DSA, Computer Networks
- **Tools:** Git, Github version control
- **Soft skills:** team player, leadership, project management

EDUCATION

Embedded Systems Course *June 2025 – Jan 2026*

Emertxe Information Technologies, Bengaluru, Karnataka

Bachelor of Technology (Electronics and Communication) *2021 - 2025*

Amal Jyothi College of Engineering (Autonomous), Kottayam, Kerala **CGPA 7.58/10**

(Affiliated to APJ Abdul Kalam Technological University)

Class 12th - Central Board of Secondary Education *2020 – 2021*

Bhavans vidya mandir, Pathanamthitta, Kerala **CGPA 7.4/10**

Class 10th grade- Central Board of Secondary Education *2018 – 2019*

Bhavans vidya mandir, Pathanamthitta, Kerala **CGPA 9.02/10**

PROJECTS

Inverted Search Engine *December 2025*

- Developed an inverted search engine in C using hash tables and linked lists to index and retrieve words across multiple text files. Implemented word normalization, collision resolution via chaining, file-wise frequency tracking, and a modular architecture to ensure fast, accurate, and scalable search operations.

Banking System *December 2025*

- Developed a console-based banking system in C++ using object-oriented programming principles including encapsulation, inheritance, and polymorphism. Implemented role-based authentication for bankers and customers, account management features such as customer creation, deposits, withdrawals, and transaction history, and a modular class-based architecture with file handling to ensure data integrity, scalability, and maintainability.

Arbitrary Precision Calculator *November 2025*

- Developed a C-based arbitrary-precision calculator supporting addition, subtraction, multiplication, and division on extremely large integers using custom doubly linked lists. Implemented digit-wise parsing, list-based arithmetic algorithms, and a modular program architecture to ensure accuracy, performance, and scalability.

Mp3 Tag Reader for ID3v2.3 *November 2025*

- Developed a command-line MP3 tag editor in C to view and modify ID3 metadata including title, artist, album, year, genre, and comments. Implemented binary file handling, structured data parsing, and modular program design to ensure maintainability, scalability, and reliable metadata manipulation.

Lexical Analyzer *October 2025*

- Developed a C-based lexical analyzer to scan and tokenize C source files, identifying keywords, identifiers, operators, constants, and special symbols. Implemented character-level parsing, modular architecture, efficient file I/O, and robust error detection for malformed tokens, demonstrating strong fundamentals in compiler design and system-level programming.

LSB Image Steganography *October 2025*

- Designed and implemented a C-based steganography tool using Least Significant Bit (LSB) techniques to hide and retrieve data within BMP images. Applied bitwise operations, structured file processing, modular design, and robust error handling through a command-line driven interface.

Addressbook *September 2025*

- Developed a C-based Address Book Management System with full CRUD functionality (create, search, update, delete, and list contacts) using a command-line interface. Implemented CSV-based persistent storage, modular program architecture, and robust input validation for names, phone numbers, and email addresses to ensure data integrity, reliability, and maintainability.

L-S band Power Amplifier Integrated Antenna *June 2024 – March 2025*

- Designed a Class-AB RF power amplifier IC with output impedance matching to a microstrip patch antenna, enabling efficient signal transfer and integration for a portable electromagnetic imaging system. Applied RF design principles, impedance matching techniques, and antenna interfacing.

  Tool used to design: Keysight Advanced Design System (ADS) software

Automated Traffic Alert System (ATAS) *June 2023 – March 2024*

- Built an ESP32-based V2V communication prototype to broadcast and receive emergency vehicle alerts, integrating wireless antennas and real-time embedded firmware for on-road safety applications.

  Tool used to develop: Arduino IDE

INTERNSHIP AND WORKSHOP

- **Internship** (2023): Revertech IT Solutions-PCB Designing
- **Workshop** (2024): VLSI for beginners by NIELIT Ministry of Electronics and IT, Government of India
- **Workshop** (2023): Foundation of Electric and Hybrid Vehicles by Techmaghi and Tryst'24 IIT Delhi

CERTIFICATION

- **NPTEL** (April 2024) - A brief introduction of micro sensors, IISER, Bhopal
- **Honours Course** (2023) - FPGA based system design
  Honours Course (2022) - Nanoelectronics

ACHIEVEMENTS

- **Young Innovators Program Kerala Development & Innovation Strategic Council** (2023): Certificate of recognition