

ATIR SHAKHRELIA

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EDUCATION

Northeastern University - Khoury College of Computer Sciences

Boston, USA

Master of Science, Computer Science, GPA: 4.0

May 2026

- **Relevant Coursework:** Programming Design Paradigms, Data Management and Processing, Algorithms, Mobile Application Development

Nirma University - Institute of Technology

Ahmedabad, India

Bachelor of Technology, Computer Science and Engineering, GPA: 4.0

Jun 2024

- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Operating Systems, Databases, Machine Learning, Deep Learning, Big Data Technologies, Data Mining, Blockchain Technology

EXPERIENCE

Johnson Controls-Hitachi

Ahmedabad, India

Research and Development Intern

Jan 2024 - Jun 2024

- * Developed a robust Bluetooth communication infrastructure using **Silicon Labs EK4108-A**.
- * Implemented a **nested hashing algorithm**, achieving a **33%** increase in non-line-of-sight (NLOS) communication stability.
- * Built a mobile application using **Java's Android SDK in Android Studio** to replicate IR remote functionality, enabling faster device communication and achieving a **40%** reduction in response time.
- * Optimized Bluetooth configurations, extending the communication range from **7m to 55m**, addressing the limitations of previous configurations.

Sixth Sense Info Pvt. LTD

Ahmedabad, India

Web Development Intern

May 2022 - Jul 2022

- * Engineered a **WordPress-based CMS** to streamline content management workflows, enhancing user experience.
- * Configured SEO strategies and advanced analytics, increasing user engagement by **40%** and page views by **25%**.
- * Improved website performance by optimizing code and implementing **caching strategies**, reducing page load time by **30%**.

ACADEMIC PROJECTS AND RESEARCH

Drowsiness Detection for Intelligent Transportation Systems

- Utilized **Federated Learning** to train CNN models across decentralized data sources, achieving a **97.45%** global model accuracy while ensuring **data privacy**.
- Engineered a **blockchain-based smart contract** using **Solidity** to securely integrate the detection output, enhancing the efficiency of data storage by **40%** and enhancing data integrity and traceability.

ImageLab

- Designed a command-line-based image processing application using **Java** and the **MVC** design pattern, incorporating advanced principles like the **Command Design Pattern** to ensure **modularity**, **code reusability**, and a highly extensible and scalable architecture while **minimizing code duplication** and reducing **technical debt**.
- Integrated a GUI using **Swing**, enhancing user experience with an intuitive interface for seamless interaction with the application.
- Conducted over **400 JUnit tests** to ensure high-quality code with extensive unit test coverage, achieving improved reliability and maintainability.

Stock Pattern Analysis

- Led the development of a pattern analysis system using **Python**, leveraging **Spearman's rank coefficient** to reduce computation time by **90%** compared to the CNN models used by other teams.
- Achieved **first prize** and received accolades for outperforming all participants in the track.

BookNest : An online BookStore Application

- Developed a **full-stack** web application using **Java (Spring Boot)** for backend and **React.js** for frontend, integrated with a **MySQL** database for managing books, user authentication, and order processing.

SKILLS

Languages : Python, Java, C++, C, SQL, Unix Scripting, HTML, CSS, Javascript, Solidity.

Technologies : MongoDB, Oracle SQL, Hadoop, Spark, Tableau, GitHub, PostMan.

Frameworks : Flask, Django, Junit, Swing, AWT.

ACHIEVEMENTS

Awarded Gold Medal for securing the highest GPA in Computer Science and Engineering at Nirma University.

Published 3 research papers: 2 in **IEEE conferences** and 1 in **Springer**, focusing on machine learning and intelligent systems.

National Hackathon Track Winner at MiNed Hackathon for developing an innovative Stock Pattern Analysis using **Python**, demonstrating technical expertise and creativity.

Completed the Stanford University DeepLearning.AI Machine Learning Specialization on Coursera, covering topics like supervised learning, advanced algorithms, and reinforcement learning.