

TIRTH DHANDHUKIA

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EDUCATION

SVKM's Mukesh Patel School of Technology & Engineering
Bachelor of Technology, Electronics & Telecommunications

August 2026

Udayachal High School
Class X

March 2020

WORK EXPERIENCE

Machine Learning Intern
CAESEX Firefighters

June 2025 - July 2025

- Developed predictive **machine learning models** to identify **high-risk fire zones** using historical incident data.
- Reduced equipment installation time by **25%** through **targeted deployment strategies**.
- Enhanced **safety coverage and accessibility** by **90%** in high-risk areas via **data-driven allocation**.
- Analyzed and visualized operational data to improve overall **fire safety efficiency** and **resource management**.

Data Science Summer Intern
Royal Kids Pre-School

May 2024 - July 2024

- Managed and analyzed **internal databases** to ensure **data accuracy and consistency** for business operations.
- Designed and normalized **relational databases** to enhance **scalability and maintain data integrity**.
- Implemented **role-based access control** for secure handling of **sensitive student and staff data**.
- Cleaned, structured, and interpreted large datasets to extract **actionable insights** supporting decision-making.

PROJECTS

- **EVision - EV Charging Forecasting & Location Planner (SARIMA, XGBoost, K-Means, React.js)** [LIVE](#)
 - Forecasted EV charging demand using **SARIMA and XGBoost**, achieving **high prediction accuracy** across multiple regions.
 - Applied **K-Means clustering with GIS data** to identify **optimal EV charging station locations** based on demand, utilization, and population density.
 - Built an **interactive React.js dashboard** to visualize insights, enabling **data-driven decision-making** for sustainable EV infrastructure planning.
- **Nike Marketplace Clone (HTML, CSS, JavaScript, Front-end Development)** [LIVE](#) [GitHub](#)
 - Developed a fully responsive **front-end MVP clone** of the Nike website with functional **navigation, product listings, and cart features**.
 - Implemented a **static login page** and modern CSS practices for **clean, maintainable, and scalable UI design**.
 - Focused on **semantic HTML and best front-end practices**, demonstrating strong **UI/UX skills**.
- **Deep Learning-based Beamforming Optimisation for 5G Networks (FFNN, MATLAB 5G Toolbox)** [GitHub](#)
 - Developed a **Feedforward Neural Network (FFNN)** using simulated CSI data to optimize **beam-user mapping in 5G networks**.
 - Achieved a **25% improvement in spectral efficiency** and reduced misclassification rate to **7.1%**.
 - Conducted end-to-end experimentation in **MATLAB 5G Toolbox** to validate performance and **enhance network optimization**.

TECHNICAL SKILLS

Programming Languages: C++, Python, JavaScript, TypeScript, HTML, CSS

Frameworks/Libraries: React.js, Express.js, Next.js, Node.js, Tailwind CSS, Bootstrap

Tools/Technologies: Git, Docker, NPM, PNPM, Bun, Vite, AWS EC2, S3

Databases: MySQL, PostgreSQL, MongoDB, NoSQL

ADDITIONAL PROFICIENCIES

Core Subjects: Internet of Things, System Design, Computer Networks, DBMS, Machine Learning

Data Structures & Algorithms: LeetCode 100+ problems solved, Overall rating 1500+