# Vigneshwaran Dhanapal

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## EDUCATION

**Dhanalakshmi College of Engineering** — Chennai, India
Bachelor of Engineering (B.E.) – Electronics and Communication Engineering; CGPA: 7.8/10 — **October 2021 – May 2025**
**Government Boys Higher Secondary School** — Pattukottai, India
Higher Secondary (HSC) – State Board; Percentage: 75% — **June 2020 – March 2021**

## SKILLS SUMMARY

- **Languages**: Java, Python, SQL, MYSQL
- **Tools**: Git, GitHub, Eclipse, VS Code
- **Web Technologies**: HTML5, CSS3
- **Concepts**: Object Oriented Programming(OOP's) ,JDBC
- **Soft Skills**: Quick Learner, Team Collaboration, Time Management, Communication Skills

## INTERNSHIP EXPERIENCE

**Software Developer Intern | Prodigy Infotech | LINK** — **August 24 – September 24**

- Developed **Java console-based applications** including a Number Guessing Game, Sudoku Puzzle, and Contact Manager with add/save/delete features.
- Implemented **JDBC with SQL databases** for persistent data storage and retrieval in the Contact Manager project.
- Enhanced application reliability by applying **OOP principles, exception handling, and modular design**, improving maintainability and reducing errors.
- Used **Git and GitHub** for version control, ensuring smooth collaboration and structured code management during development.
- Contributed to an **Agile team environment**, practicing clean coding standards and delivering functional software modules within deadlines.

## PROJECTS

**AI-Powered E-Bus Safety Enhancement Using (CREM) | LINK** — **March 2025 – May 2025**

- Developed a **real-time AI-based driver drowsiness detection system** using Python with **facial landmark detection** and the **Eye Aspect Ratio (EAR) algorithm**, achieving 92% accuracy in detecting eye closure.
- Integrated **Continuous Rapid Eye Motion (CREM) monitoring** with **fuzzy logic AI**, enabling adaptive alert generation and decision-making based on driver fatigue levels.
- Established **serial communication between AI-powered detection in Python and Arduino hardware**, triggering buzzer alerts and autonomous mode activation during drowsy states.
- Implemented a **modular AI-driven software design** combining Python-based detection with Arduino control logic, reducing false alerts by 30% and improving real-time response speed.

**Console-Based Contact Save System | LINK** — **January 2025 – February 2025**

- Built a **Java-based console application** to manage contacts, enabling **add, update, search, and delete (CRUD) operations** for efficient record handling.
- Integrated **JDBC with SQL database**, ensuring persistent storage and reliable retrieval of contact information.
- Applied **Object-Oriented Programming (OOP) principles** such as encapsulation and modular design, improving maintainability and scalability of the codebase.
- Enhanced usability by implementing **input validation and exception handling**, reducing runtime errors and ensuring smooth user interaction.

## CERTIFICATES

**Java SE 21 Development (Udemy) | CERTIFICATE** — **July 2025**

- Learned **Java SE 21 fundamentals** including OOP principles, exception handling, collections, and multithreading.
- Built **console-based applications** demonstrating Java features and modern best practices.

**SQL (Udemy) | CERTIFICATE** — **August 2025**

- Gained strong understanding of **SQL queries, joins, subqueries, and database design** concepts.
- Practiced building and managing **relational databases**, improving data retrieval efficiency.

**Google Cybersecurity (Coursera) | CERTIFICATE** — **October 2023**

- Acquired knowledge of **cybersecurity principles, network security, encryption, and threat management**.