

# KAMALESH R

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## EDUCATION

### B.E., Computer Science Engineering

Graduating Oct 2026

JCT College of Engineering and Technology

8 GPA

Affiliated with Anna University, Chennai

Relevant coursework: Software Engineering, Operating Systems, Algorithms, Artificial Intelligence, System Architecture, Database Management Systems, Web Development, Machine Learning, Data Structures

## TECHNICAL SKILLS

**Programming:** Python, JavaScript

**Technologies:** Django, REST API, Git, Pandas, NumPy

**Certifications:** Oracle Cloud Infrastructure 2023 AI Certified Foundations Associate

## PROJECTS

### Notes – Django-based Note Taking Application

2026 – Present

Developed a mobile-optimized Notes Taking App

GitHub

- Built a full-stack Django application enabling users to create, edit, archive, restore, and soft-delete notes with per-user data isolation
- Implemented authentication workflows (signup, login, logout) using Django's built-in auth system and custom user profile management
- Designed efficient note organization with archive and trash systems, timestamp tracking, and real-time search by title and content
- **Technologies:** Django, REST API, Python, HTML, CSS, JavaScript, SQLite, Unicorn, Render

### Warehouse Multi-Agent System (MAS)

2026 – Present

Deterministic multi-agent warehouse coordination with formal safety verification and constraint-guided refinement

GitHub

- Built a grid-based warehouse simulator where multiple robots pick shelves and deliver them to goal cells using deterministic planning
- Implemented prioritized multi-agent path planning with time-indexed vertex and edge reservations
- Designed symmetry-reduced state abstraction using quotient model construction to reduce verification complexity
- Implemented bounded safety verification to detect collisions and unsafe separations across quotient states
- Built a counterexample-guided refinement loop that converts failure traces into hard planner constraints
- **Technologies:** Python, NumPy, Pygame, Multi-Agent Systems, Formal Verification, A\*, YAML

## OTHER EXPERIENCE

### JCT College of Engineering, Coimbatore, India: Peer Tutor

March 2025 – Present

- Conducted hands-on Python training for 10–15 undergraduate students, covering core programming, scripting, and problem-solving
- Delivered lessons on Data Structures and Algorithms, including time complexity, recursion, sorting, and dynamic programming with real-world examples

## ACTIVITIES

### JCT Coding Club, Coimbatore, India: Active Member

2023 – Present

- Participated in weekly coding challenges and solving problems in Python

## HONOURS

### Kerala Sasthrolsavam IT Fair, Palakkad, Kerala, India: First Place in Animation

2019 – 2020

- Secured First Place in Animation at the Palakkad District Kerala Sasthrolsavam IT Fair 2019–2020, awarded by the Government of Kerala