SOMAIYA VIDYAVIHAR UNIVERSITY
K J Somaiya School of Engineering
(formerly K J Somaiya College of Engineering)

Somaiya TRUST

Vrishank Warrier

CONTACT DETAILS

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PERSONAL INFORMATION

Date of birth: 02/11/2004;
Gender: Male
Languages Known: English, Hindi and Malayalam
Hobbies: Music, Football, Badminton
LinkedIn:
https://www.linkedin.com/in/vrishank-warrier-ab529628a/
GitHub:
https://github.com/shadovxw
Portfolio:
https://portfolio.shadovxw.me

PROFILE SUMMARY

Early-career Software Engineer pursuing a B.Tech in Electronics and Computer Engineering, with strong hands-on experience across **robotics, embedded systems, computer vision, backend engineering, and DevOps**. Experienced in building and stabilizing real-world systems including autonomous drones, vision-guided robots, and cloud-native backend services. Comfortable working across hardware, system-level software, and distributed backend architectures. Actively seeking opportunities in **systems engineering, robotics, backend, or platform engineering** roles.

EDUCATION

- Pursuing **B.Tech in Electronics and Computer Engineering**, KJ Somaiya College of Engineering, Mumbai
  2022 – Present
  Honors in Artificial Intelligence, Computer Vision, and Robotics | CGPA: 9.35
- **HSC (12th Grade)** – Shubhamraje Junior College, Thane
  2022 | Percentage: **89.67%**
- **CBSE (10th Grade)** – Sri Ma Vidyalaya, Thane
  2020 | Percentage: **76.2%**

TECHNICAL SKILLS

- **Programming Languages** Python, JavaScript, SQL, Bash
- **Backend & Web** Node.js, Express.js, Flask, REST APIs, React.js, MongoDB, PostgreSQL
- **DevOps & Cloud** Docker, Kubernetes, OpenShift, CI/CD (GitHub Actions), ELK Stack, HashiCorp Vault, Nginx, YAML, Git, Bastion Hosts
- **Embedded & Robotics** Raspberry Pi, Pixhawk, ArduPilot, UART, PWM, GPIO, Bare-Metal C, OpenCV, MediaPipe
- **Tools & Platforms**
  Linux, Git, VS Code, Postman

ADDITIONAL SKILLS

- Hands-on Hardware Integration
- Problem Solving under Pressure
- Time Management & Task Prioritization

OTHER DETAILS

Internship:

Drone Crafters – In-house Internship
KJ Somaiya College of Engineering | Mentor: Dr. Ninad Mehendale | 2023 – Present

- Designed, assembled, and flight-tested a Pixhawk-based quadrotor drone from scratch.
- Integrated **Pixhawk Cube Orange**, Herelink telemetry, ESCs, motors, power distribution, and onboard electronics.
- Configured and tuned **ArduPilot** for stabilization, flight modes, and failsafe systems.
- Conducted extensive indoor and controlled test flights to validate power integrity, vibration handling, and stability.
- Integrated a **Raspberry Pi companion computer** for ongoing vision-based extensions.
- Currently exploring onboard perception and obstacle awareness using computer vision.

Citius Cloud Services LLP – *Backend & DevOps Engineering Intern*
May 2025 – Ongoing | Mumbai

- Contributed to enterprise-grade backend systems in a microservices architecture.
- Deployed and managed applications on **Kubernetes and OpenShift**, using secure Bastion access.
- Automated service deployments and configuration updates using **Docker, YAML, and CI/CD pipelines**.
- Implemented centralized logging and monitoring with the **ELK Stack**.
- Integrated **HashiCorp Vault** for secure secret management and built APIs for encrypted secret access.
- Assisted in designing scalable, event-driven service communication patterns.

Projects:

WAVE DRIVE – Gesture-Controlled Car *(In Progress)*
GITHUB LINK -> https://github.com/shadovxw/wavedrive/tree/version3
UI Link -> https://wavedrive.shadovxw.me

- Designed a **3-microservice architecture** (React UI, Node.js relay, Flask vision service).
- Built a real-time gesture recognition pipeline using **MediaPipe and OpenCV**.
- Optimized latency using frame downscaling, compression, and single-instance inference.
- Implemented deterministic gesture classification mapped to robotic commands.
- Integrated event-driven WebSocket communication with a Raspberry Pi car controller.

Tech Stack: Raspberry Pi, Python, OpenCV, Flask, Node.js, Express

BlablaVerse — Real-Time Social Platform

GitHub -> https://github.com/shadovxw/blablaverse

UI Link -> https://blablaverse.shadovxw.me

- Built a real-time social web application supporting interactive communication and user-generated content.
- Developed backend services in **Node.js & Express** for authentication, messaging, and core business logic.
- Implemented secure authentication using **JWT with HttpOnly cookies** and role-based access control.
- Integrated **WebSockets** to enable low-latency real-time messaging and live interactions.
- Built a responsive **React** frontend with clean state management and modular architecture.

Tech Stack: React, Node.js, Express, WebSockets, MongoDB/PostgreSQL, JWT

Smart Cobot — Vision-Guided Collaborative Robot System

GITHUB LINK -> https://github.com/shadovxw/upgraded-pancake

- Built a camera-to-robot calibration pipeline using homography for accurate spatial mapping.
- Developed a TCP/IP client-server system for real-time robot motion control.
- Integrated AI-based object detection with live camera feed for autonomous object targeting.
- Implemented voice- and text-driven robot commands with safety-checked execution.
- Added workspace validation, reachability checks, and motion timeouts for safe operation.

Tech Stack: Python, Raspberry Pi, OpenCV, NumPy, TCP Sockets, JSON, MyCobot SDK, Computer Vision, Speech Recognition, Linux

UART-Controlled DC Motor System on LPC1768

GITHUB LINK –> *https://github.com/shadovxw/cuddly-journey*

- Developed a bare-metal embedded C application on **ARM Cortex-M3 (LPC1768)**.
- Implemented PWM-based motor speed control and GPIO-based direction control.
- Designed UART command interface for real-time control via serial terminal.
- Integrated LCD display and LED speed indicators.
- Used SysTick for accurate timing without an RTOS.

Hardware: LPC1768 (ARM Cortex-M3), DC Motor Driver, LCD, LEDs

Software: Embedded C, Bare-Metal Programming, UART, PWM, GPIO, SysTick

Courses & Certifications

- Excel Skills for Business: Essentials – Coursera, *Macquarie University* (2024)
- Calculus for Machine Learning and Data Science – Coursera, *DeepLearning.AI* (2024)
- Confluent Developer Skills for Building Apache Kafka – Confluent (2025)

Leadership & Achievements

- Co-Captain, Drone Crafters Team – KJ Somaiya College of Engineering
- Winner, Codenovate National Hackathon 2024 (Open Innovation Theme)
- Delivered technical session on Drone Hardware Systems during STTP (Dec 2024)

Interests / Extracurricular Activities:

- Represented Mumbai FC (U-15 I-League) and MDFA tournaments
- School football team captain
- Track & field medalist

Awards & Recognitions

- **Codenovate National Hackathon 2024**
  Secured 1st place in the *Open Innovation* theme and received an honourable mention for excellence in theme execution. Ranked among the top 5 participants across all problem statements nationwide.
- **Appreciation Letter – KJ Somaiya College of Engineering**
  Recognized by Somaiya Vidyavihar University for assisting Dr. Ninad Mehendale during the *Short-Term Training Program (STTP)* on "Drone Dynamics: From Basics to Advanced Flight" (Dec 9–13, 2024). Delivered a technical session on “Hardware Technology in Drone Systems,” contributing to the workshop’s success and enhancing participants' knowledge in drone hardware integration.