

# CANVA DESIGN

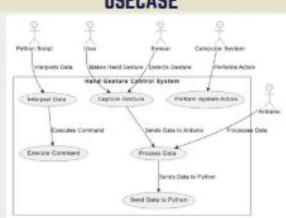
## POSTER



**ARDUINO BASED HAND GESTURE CONTROL OF COMPUTER**  
IT5052, Internet of Things, CIE-3  
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Uka Tarsadia University

**ABSTRACT**  
Gesture-based interaction is gaining popularity in workplaces and homes. This project develops a low-cost system using Arduino Uno and Ultrasonic Sensors to recognize hand gestures for computer interaction. Python (PyAutoGUI) processes sensor data to simulate keyboard and mouse operations, providing a touchless control alternative.

**INTRODUCTION**  
Commercial gesture control systems like Leap Motion are costly. This project offers an affordable, open-source solution using Arduino Uno and ultrasonic sensors. Two sensors detect hand distance, processed by Arduino, which sends commands to a Python script to execute actions like scrolling, switching tabs, or media control.

**USECASE**  


```
graph TD; Actor[User] -- "Perform Input" --> Sensor[Two Sensors]; Sensor -- "Capture Data" --> HGCSystem[Hand Gesture Control System]; HGCSystem -- "Interpret Data" --> Command[Execute Command]; Command -- "Execute Command" --> Action[Perform Action]; HGCSystem -- "Send Data to Arduino" --> Arduino[Arduino Uno]; Arduino -- "Process Data" --> Python[Python Script]; Python -- "Process Data" --> Action;
```

**REQUIREMENTS**  


- 1. Ultrasonic Sensors x 2
- 2. Key Connecting Wires
- 3. Arduino Uno
- 4. USB Cable for Arduino Internet connection
- 5. Laptop
- 6. Arduino IDE

**RESULT**  
The system successfully detects hand gestures and translates them into corresponding system actions. The following gestures are implemented:

- Swipe right → Switch to next tab.
- Swipe left → Switch to previous tab.
- Move hand closer → Scroll up.
- Move hand away → Scroll down.
- Swipe across both sensors → Switch between tasks.

**CONCLUSION**  
This project demonstrates an effective and low-cost solution for gesture-based computer interaction using Arduino and Python. It enables hands-free control, enhancing accessibility and usability. The system can be extended to voice integration, AI-based gesture prediction, and improved accuracy through machine learning models.

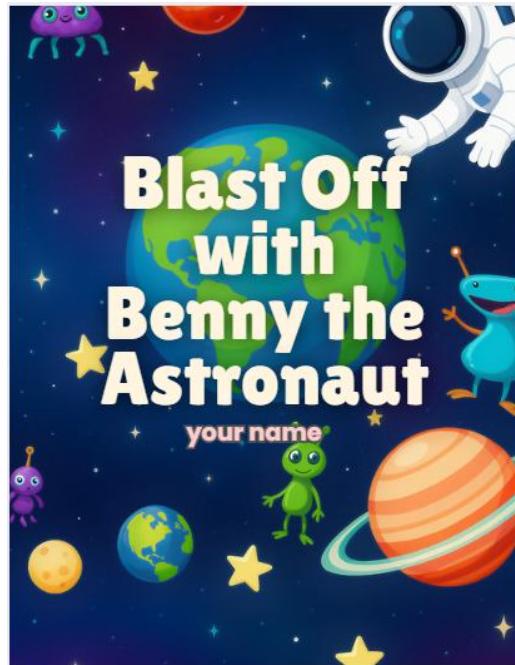
**FUTURE SCOPE**

- Additional Gestures: Incorporating more hand movements for advanced functionality.
- Bluetooth/Wireless Communication: Making the system more portable.
- Voice Assistance Integration: Combining gestures with voice control for enhanced interaction.

**PROCESS**  


```
Start --> Enter Device Serial --> Device Connect --> Read Data from Serial --> Process --> Read Data via Serial --> Arduino Read --> Execute System Command --> Application --> Read Serial No. --> Read Data via Serial --> End
```

## EBOOK COVER



## LOGO



## ADVERTISING



# RESUME

**YASHASVI PATEL**

DEVELOPER

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As a BTech student in Computer Science and Engineering , I bring skills in HTML,Javascript,Java and Android development in Java, with experience in web and application development. My journey began with a Diploma in Computer Engineering . Fluent in Hindi and proficient in English, I effectively represent my institute and excel in video editing, photo editing, and logo design. My volunteer efforts consistently yield positive outcomes.

**EDUCATION**

2020 - 2023 JAYVANTRAI HARSHAD DESAI POLYTECHNIC Diploma in Computer Engineering CGPA: 8.93	4th year- currently pursuing UKA TARSADIA UNIVERSITY BTech in Computer Science and Engineering
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**SKILLS**

- Programming Languages: Java, JavaScript, C, C++, HTML
- Frameworks & Technologies: Android Development In Java (Beginner)
- Web Technologies: HTML, CSS, JavaScript(Basic)
- Databases and OS: MySQL, SQL & Windows, Linux.
- Tools & Platforms: GitHub, Canva Editor, MS Word, Excel, PowerPoint (Slide Presentation)
- Other Skills: Prompt Engineering
- Languages: English, Hindi, Gujarati

**Other Skills**

- Frontend Frameworks: Currently exploring ReactJS
- Cloud Computing: Studied as part of coursework. Familiar with fundamental cloud concepts, deployment models, and services (AWS, PaaS, SaaS).
- Soft Skills: Strong communication, teamwork, empathy, and proactive problem-solving. Represented institute in academic and volunteer events.
- Human Resource Fundamentals

**Why Me – For Recruit**

I'm someone who genuinely enjoys both tech and connecting with people, so I'm drawn to roles where I can use my technical skills while also working closely with others. I really appreciate companies whether remote or in-person, that are growing fast, value innovation, and encourage teamwork. I'm always eager to learn, explore new platforms, and contribute with curiosity, commitment, and a positive mindset.

**ACADEMIC PROJECTS**

**Project 1: Book Store Website (WordPress) 2021-22**  
Developed a book store website using WordPress during the 2nd year of diploma. Gained fundamental skills in WordPress and learned the basics of website development.

**Project 2: Brain Tumor Prediction Application (Java, Android Studio) 2022-23**  
Contributed to the Android development of a Brain Tumor prediction application. Acquired valuable insights into Android development using Java in Android Studio.

**Project 3: Clothing Store Website (PHP, HTML, CSS) 2023-24**  
Created a clothing store website utilizing PHP, HTML, and CSS. Gained practical experience in web development and design.

**Mini Project: Static Flutter Project 2023-2024**  
All in One Converter[ADC] Function-BMI,Percentage Calculator,Tax Calculator etc.)

**Mini Project: Secure Diary Web Application 2024-25**  
Designed and developed a secure web-based personal diary application that prioritizes user data privacy using cryptographic hashing techniques.Role: Prompt Developer . Tech Stack: HTML, CSS, JavaScript, Crypto Libraries (SHA-256, bcrypt)

**Internship: Lightning Cognitions As a Jr. Web Developer 2024-2025**  
I believe that the experience I have gained while working with them will be an asset to my future career. Worked with HTML,CSS and with Template Also)

**Objective**

BTech CSIT Final-year student with a strong foundation in web development, cloud computing, and UI/UX. Recently exploring ReactJS and have experience with real-world applications like Brain Tumor Prediction and secure web apps. Eager to contribute to customer-facing roles using communication skills, problem-solving, and technical knowledge.

**Availability & Preferences**

- Open to Remote / On-site Work
- Comfortable with Flexible Shifts Including Night Shift.
- Eager to learn in fast-paced, global team environments

## BOUTCAMP DESIGN

