Bibin Thomas

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PROFESSIONAL SUMMARY

A Junior Frontend Engineer with a background in embedded systems and full-stack developement. Skilled in JavaScript, ReactJS, HTML, and CSS. I have built interactive UIs and real-time object detection dashboards. I love building user-centric web applications and are always learning something new-On my latest are TypeScript and frontend testing frameworks.

SKILLS SUMMARY

- **Frontend:** JavaScript, React.js, HTML5, CSS3, TypeScript (Learning), Bootstrap, Figma (for UI design)
- **Backend/Full Stack:** Django (basic), Python
- **Tools & Platforms:** Git, VS Code, Pycharm, DevCPP
- **Testing & APIs:** REST API integration, Unit Testing (Jest - Learning),
- GraphQL (basic exposure)
- **Soft Skills:** Continuous Learning, Excellent Communication ,Fast Learner, Team Collaboration, Problem Solving

EDUCATION

Vistula University **poland | 2023-2024**
Master of Computer Science
- CGPA: 4.56 /5

Anna University **india | 2016 -2020**
Bachelor of Electronics and Communication Engineering
- CGPA: 6.27/10

PROFESSIONAL EXPERIENCE

Junior Robotics engineer | India | Feb 2020 - Aug 2020

Ocius Technologies

- Contributed to the design and prototyping of the robotic leg, including aspects of mechanical modeling, motor selection, and joint optimization, which led to about 15% gains in mobility efficiency.
- Worked on the motion control algorithm design using C/C++ and Python and improved response time by 20%.
- Collaborated with multidisciplinary teams (mechanical, electrical, and software) to execute system-level testing and refinements
- Developed various scripts in Python for data logging, sensor validation, and motor calibration,

internship- Embedded System | India | feb 2024 - Apr 2024(online)

Pantech Solutions

- Embedded C programs were developed and optimized for ARM Cortex M4 and FPGA-based systems.
- Python was used for scripting automation tasks and for real-time sensor data analysis.
- Communication protocols such as UART, SPI, and I2C were implemented to interface external devices.
- Contributed to hardware/software integration by writing and testing firmware to ensure accurate communication between sensors and microcontrollers.

PROJECTS

Object detection and Audio guidance system for the visually impaired

- Developed an assistive technology project to enhance mobility for visually impaired individuals using a wearable device and a mobile application, improving navigation efficiency.
- Built a web-based companion application using HTML, CSS, and JavaScript to display live data from the wearable unit.
- Implemented real-time object detection using Python, YOLOv5, and OpenCV, achieving 95% accuracy in recognizing objects.
- Technologies: Python, OpenCV, Arduino, HTML, CSS, JavaScript, Text-to-Speech API.

Evacuation Vehicle for Military Applications

- Designed and developed a wireless-controlled autonomous evacuation vehicle for military operations, reducing response time in war zones by 40%.
- Developed a robotic arm for assisting injured individuals, and clearing obstacles.
- Implemented a targeting system with 90% accuracy to locate injured personnel within a radius of 50 meters and detect enemy threats.
- Utilized Arduino Nano and NRF24L01 modules, ensuring real-time wireless communication.
- Programmed functions using C and Python, optimizing system efficiency and reducing processing time by 30%.

Temperature Monitoring System with animation

- Using DHT11 (I2C) sensor and OLED/LCD (SPI)displays to monitor and display real-time temperature.
- Integrated Adafruit GFX and SSD1306 libraries to display custom graphics on OLED.
- Utilized LiquidCrystal_I2C library for interfacing with 16x2 LCD.
- Programmed in Arduino IDE using C++ for sensor data processing and output control.

CERTIFICATIONS & PROFESSIONAL TRAINING

- **Full-Stack Web Developement | 2025** (ongoing)
  UDEMY online
- **Embedded C Programming | 2024**
  Pantech Prolabs India Pvt Ltd
- **Embedded Driver Development | 2024**
  Pantech Prolabs India Pvt Ltd
- **Python | 2021**
  Tech U Tech Pvt Ltd
- **Trained in Piccolo Microcontroller | 2020**
  MC Technologies