TRAN NGUYEN PHONG

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PROFILE INFO

Hardworking, highly motivated individual eager to lend combined knowledge and skills to enhance business performance. Operating well in both individual and team capacities, leveraging seasoned work ethic to quickly adapt to different processes and drive company objectives. Resourceful and results-driven with a passion for growth and efficiency to meet company needs and increase service values.

WORKING EXPERIENCE

VINERGY - IOT Developer (02/2024 - 09/2024)

- Design smart solutions for smart application in for smart homes, factories, manufactures,..
- Develop widgets for Thingsboard IOT platform.
- Design different dashboards based on customer's requirements.
- Configure IOT devices and integrate with Thingsboard.
- Process and analyze data with rule chains (Rule Engine).

Bosch Global Software Technologies Vietnam - Embedded Software Engineer (09/2024 - 03/2025)

- Participating in Unit Testing process and working on Code Coverage topic for Toyota's project with Japanese clients.
- Designing test cases for functional components and reviewing through Reviewtool.
- Hosting presentation on Automotive and AUTOSAR Architecture.
- Basic knowledge of Diagnostic System Management
- Familiar with tools such as ECU.Worx, TPT,..

EDUCATIONAL PROJECTS

Supervisor simulation with Webots

- Program a supervisor robot for checking points of line following car in simulation environment.
- Design algorithms for the robot to inspect whether the robot is out of line, check points.
- Use Webots API for several features such as automatically load the program for other robots and camera angles.
- Interact with plugins from Webots platform to publish the data which are the points of each robot to database (mongoDB).

EDUCATION

- Senior at Faculty of Computer Engineering.
- University of Information Technology (From 2021)
- GPA: 3.15/4.0
- Bachelor in Computer Engineering candidate (Expected graduation in 09/2025)

SKILLS

- C/C++, Python programming.
- Microcontroller programming (ESP32, STM32, Arduino).
- OOP Design Patterns.
- Qt programming
- Protocols: UART, I2C, SPI, Wifi, Bluetooth, CAN,...
- Tools: Matlab/Simulink, Solidworks, STM32CUBEIDE, ArduinoIDE, Webots.
- RTOS (freeRTOS, OSEK).
- Scripting languages: CShell, Bash.
- Git, Github.
- Linux (Ubuntu).
- SDLC (Agile/Scrum, V-model).
- Automotive knowledge (Chassis, Engine, Drivetrain,..).
- ISO26262, ASPICE.
- Knowledge of AUTOSAR.

LANGUAGES

- English (IELTS overall band 7.0)

Car crash detection system

- Hardware system and PCB design including STM32F103C8T6, module SIM800C, 16x2 LCD, MPU6050.
- Write a program to read acceleration as well as gyroscope from the MPU6050 through I2C protocol.
- After receiving the information from the MPU (which is already calculated), program STM32 to send AT commands to module. GSM SIM800C in order to make contact through UART protocol.
- The data and the alarm will be printed on LCD

Smart security camera system

- Hardware system and PCB design including ESP32 CAM, PIR motion sensor(HC-SR501), 16x2 LCD
- Start a local webserver to stream video in localhost using HTTP protocol.
- Write a program to connect ESP32 CAM to a telegram bot and provide various messages such as capture, flash on, state,.....
- Handle incoming commands from telegram and perform different actions based on the commands.
- Read the data from PIR sensor and send the output back to ESP32 CAM. When motion is detected, ESP32 CAM will capture a picture and send back telegram.

5 DOF artistic robot arm

- Design and calculate mathematical equations for forward, inverse kinematic and robot kinetic.
- Design robot model using Solidworks.
- Simulate the models using Matlab and RoboDK.
- STM32F103C8T6 MCU will be used to control stepper motor by PWM signal.
- Facial recognition will be applied by using Complete face recovery GAN model. Human's facial features will be recognized and recreated with this model. The output then will be converted into pixels and these pixels will be converted into CNC g-code. This process will be done from the computer.
- The g-code output from the previous process will be send to STM32F103C8T6 via UART. The MCU will read g-code by using grbl, a firmware used to control CNC machines. G-code will control the movement of robot so that it will redraw human face based on the data it received.

CERTIFICATIONS

- Top 16 UIT Car Racing competition, University of Information Technology, 2021.
- Second place in COPLAY WITH UIT: REMOTEBOT AI CHALLENGE, University of Information Technology, 2023.
- Participated in EIU Microcontroller Car Rally, Eastern International University, 2023.
- Participated in Global Gamechangers Summit, AselxPenn, 2023.
- IELTS Certificate, British Council, 2023.

EXTRACURRICULAR ACTIVITIES

- Vice chairman of CEEC (Computer Engineering Embedded Club).
- Involved in Student Union of the Faculty of Computer Engineering activities.
- Organizer of "Mộc" volunteer program.
- Participated in "Xuân tình nguyện 2021" volunteer program.
- Participated in "Mùa hè xanh 2022" volunteer program.