Halid Yıldırım

Computer Engineer

Embedded System Developer, Instructor,
Project Manager and Mechanical Designer

Every project starts with endless ideas and solutions in mind at the beginning. A good engineer must know how to aim for the one that best suits their needs. This is done by correct assessment of the requirements, knowing limits of the resources, capabilities of your team, current state of art technologies in the field that the project lives on and having the right tools to do so. My whole journey from childhood to graduation, I learned all of these things with lots of time to experience in lots of challenging projects.

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www.github.com/SMDHuman

Experience

Project Consultant - Kreatif İşler, Eskişehir, 03/2026 – Today
https://www.kreatif-isler.com/

- Advised a multi-disciplinary team on the design and execution of a competitive robotics platform for TEKNOFEST Robolig 2026.
- Guided the team through the full project lifecycle, from initial conceptualization and technical documentation to final prototype testing.

Embedded Project Developer (Intern) - Kehribar Tech, Ankara, 07/2024 – 08/2024
https://www.kehribartech.com/

- Full Stack Project Development on Embedded Programming & IoT Devices
- Temperature Control System using PID Controller with a microcontroller
- UART Serial interface over Wi-Fi using TCP socket with ESP8266

Microcontroller & Robotics Projects R&D Technician and Robotic/Python Instructor - Kreatif İşler, Eskişehir, 01/2023 – 09/2024
https://www.kreatif-isler.com/

- Python, Robotics, Arduino, Game Development with Godot, Lego Spike Instructor for students aged 8 to 16.
- Research and Development on a microcontroller based development board. My roles over the project were circuit designing, production end testing, technical documentation.

Languages

Turkish (Native)
English (Fluent)

Education & Courses

Computer Engineering Bachelor's Degree
Ahmet Yesevi International Turkish-Kazak University,
09/2022 - 06/2026

Robotic Coding Instructor Certificate - Gedik University, Istanbul - 09/2021 – 10/2021

Skills

- *Programming Languages:* **Python, C\C++**
- *Frameworks:* **Arduino, PlatformIO, ESP-IDF, Pico-SDK**
- *CAD Programs:* **Fusion360, OnShape, EasyEDA**
- **3D Printer** maintenance & repair, slicer programs & printing optimization
- Advance Sport Climber and Route Setter
- Class B Driving License

Awards

- TUBITAK 52.High School Students Research Projects National Competition Awarded the Third Prize in Robotics & Coding 08/06/2021
- INSPO 2021 International Science Projects Olympia Awarded the First Prize in Engineering 05/05/2021
- TUBITAK 52.High School Students Research Projects Regional Competition Awarded the Frist Prize in Robotics & Coding 30/03/2021
- Awarded as ElectroMaker of the Month November 2022 - 05/12/2022 with the project LOTP Robot Dog Prototype 2 by Electro{Maker} Community.
  https://www.youtube.com/watch?v=akcZd1hx-9Y&t=230s
- Promoted as a guest speaker to the event of r/Robotics Reddit community on July 2022 for introducing Modular Quadruped Robotic Vehicle (Robot Dog) LOTP V2.
  https://www.youtube.com/watch?v=TacX82KI1Sw&t=4322s

Projects: ***https://www.halidyildirim.com/myprojects***

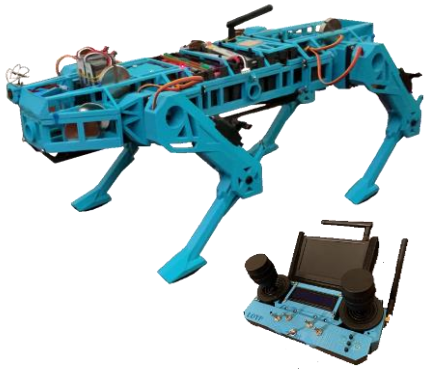
BitBoard Bir

Real-Time Logic Simulator Dev-Board

- Has a circuit simulator & generic logic simulator can be seen its own display
- Simulate circuits up to 10 kHz
- 8 combinable expansion packs
- 9 axis IMU Pack for sensing movement and direction
- Environment Pack (light, humidity, temperature sensors and barometer)
- Controller Pack (2 joysticks, 2 switches, 4 direction buttons, and 2 controllable LEDs)
- Robot Pack (capacity to control up to 14 servos and 2 DC motors)
- Battery Pack with 1 Li-Po battery
- VGA Pack with a VGA port to display images on the monitor
- Keyboard Pack (60 keys with mini keyboard layout)
- Prototyping board (for making expansion packs)

Robot Dog V2

TUBITAK Awarded Project
Modular Quadruped Robot

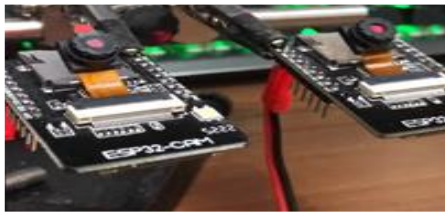


- Designed with Fusion 360 and printed with Anet A8 (3D Printer)
- Coded in Arduino language on Teensy 3.5 & Arduino
- Circuit Diagrams designed on Fritzing
- Modular structure (Lidar, Drone, Gas detection)
- Sensors Capacity: Lidar, Gas detection, Pressure sensors, Gyroscope, GPS, Wi-Fi connection
- Autonomous features (Avoiding obstacle, maintain balance, pressure control)
- PI (Proportion - Integral) control
- Inverse Kinematics & Kinematics formulas applied
- Remote Controller access through Wi-Fi
- FPV Camera and Monitor setup
- Open Source https://github.com/SMDHuman/LOTPRobotdog2

Articles written by independent blogger

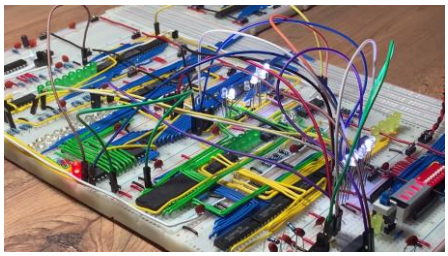
- https://www.electromaker.io/blog/article/electromaker-of-the-month-november-winners
- https://www.hackster.io/news/lotp-robot-dog-is-a-modular-quadruped-robotic-vehicle-that-can-be-enhanced-over-time-f47825c0e372
- https://korben.info/decouverte-robot-quadrupede-lotp.html
- https://hackaday.com/2022/12/21/2022-fpv-contest-the-lotp-robot-dog

SP32-CAM Multi-Point Tracker



- 3D Motion Tracker System
- Multi-point infrared tracking using ESP32-CAM modules
- Seamless inter-camera communication via ESP-NOW protocol
- Real-time performance at ~10 FPS under default configuration settings
- https://github.com/SMDHuman/ESPCAM-Multi-Point-Tracker

8 Bit Computer Processor on Breadboard



- 8 Bit Processor in CISC architecture, Built on Breadboard
- TTL Transistor Logic Chips used, Running Assembly Language
- Adjustable Processor Clock Speed from up 10,000 Hz with TLC555 Chip
- Manual Mode Operation Option (for Debugging Purpose)
- Includes: Clock Module, Address Counter, Eprom Address Registers, Eprom and I/OUnits, Eprom Instruction Registers, Assembly Code EPPROM and counters, Micro Code EPPROMs (4 Registers), 16 Instruction Process Capacity, BUS Input Output Pins, Debugging Units (Data Reading Interface and Eprom Edit Buttons), A and B register (Memory Blocks) (2 x 8 Bit Data) for mathematical operation

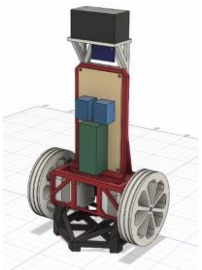
SCUTTLE Self-Balancing Robot

- SCUTTLE™ Robot's Standard form is a stepper motor driven and Raspberry Pi Pico based Four-wheeled robot. This Open Source project has been converted this robot to a 2-wheeled self-balanced robot.
- Custom 3D Printed Part has been designed in Fusion 360 to hold MPU6050 sensor on chassis.
- Self-Balancing Software was written in Python and PID Controller implemented.
- This Open Source DIY project is sponsored by Scuttle Robotics and Viam. https://github.com/SMDHuman/ScuttleBalancingRobot
- https://www.scuttlerobot.org/aiovg_videos/configure-scuttle-for-balancing-upright/

LOTP Robot Dog Ver.1

- Designed with Fusion 360
- Designed as a compact structure
- Raspberry pi 3A+ used
- Remote Controller access through WiFi
- Circuit Diagrams designed on Fritzing
- Software written in python language
- Kinematics formulas applied
- Open Source https://github.com/SMDHuman/LOTP-RoboDog

LOTP Two-Wheeled Self-Balancing Robot



- Designed with Fusion 360
- Bluetooth control is available
- Raspberry Pi Pico used as a micro controller
- PID Controller implemented
- Software written in python language
- Stepper Motors are used to perform movement
- Self – Balancing DIY Project
- Open Source: https://github.com/SMDHuman/BalanceWheel
- Article written by independent blogger https://hackaday.com/2022/12/27/3d-printed-self-balancing-robot-brings-control-theory-to-life/