

MADHAN DHANUSHKODI

PROFILE

12+ years of experience in Industrial Robotics, Automation, Autonomous Systems, Vision Intelligence and Cloud - Research and Development. Looking forward to associate myself with a tech-driven organization through Research & Innovation.

CONTACT

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[LINKEDIN](#)

RESEARCH PUBLICATIONS

[Research Gate](#)

AREA OF EXPERTISE

Cloud – AWS,
Vision, LIDAR Perception,
Sensor Data Validation,
Sensor Fusion-Autonomy,
Intelligent Battery Management
System, Bio-mimetics Design & Dev,
Industrial, Mobile & Underwater
Robots, Cognitive Psychology

SKILLS

Good Perceptual & Listening Skills,
Lateral Thinking,
Frugal Innovation,
Innovation Conceptualisation,
Innovation Development,
Research Consultation,
Project Scope Development,
Project Resources Management,
Project Resources Training &
Development,
Inter-Disciplinary Area of Interest,
Strong Research & Industrial
Application Knowledge

OS - Linux, Windows

CLOUD AWS Solution Architect

WORK EXPERIENCE

Assistant Consultant – TCSL [Jul 2022 - Till]

DevOps Team Lead – Nassau Financial Group [Feb 2024 – July 2025]

- Mainframe Modernization Cloud Migration - AWS Infrastructure and CI/CD Pipeline built to support the client applications

L2 Team Lead – Waste Management Inc [Jul 2022 – Jan 2024]

- AWS Cloud based critical applications – L2 Support and Development

Head of Electronics – AROBOTNX GEOS Private Limited [2020 – Jun 2022]

Innovation and Portfolio Management, Strategy Development for Research and Development Funding - Govt. Relations

- Cloud Autonomous Systems Design & Development for Underwater Marine Vehicles to support cost efficient survey
- Designed & developed – Marine Autonomous Control System & Acoustic Communication Training Kit modules for subsea professional learners using Phyton
- Strategy & Applications Development for Govt. Research Grants on AWS Cloud
- Develop and deploy automation use cases using Python and Terraform

Team Lead – Learning & Development – Arobot [2017 – 2019]

Robotics Research Product Development Consultant for Corporates and Universities

- Automated Guided Vehicle Development & Fleet Management - R&D for HVAC OEM's Warehouse Automation
- Part of Joint Venture Business Development - Indian Team of MooVita, Singapore for Autonomous Vehicles (Shuttle & Buggy)
- Data collection for training the Autonomous Vehicle's Vision Intelligence for Indian roads to detect various road conditions, obstacles and moving objects Behavioral Understanding
- Mission Planning for AUV SWARM using its Adaptive & Collaborative capabilities
- Bio-mimetics based Conceptual Design and Development of Underwater Vehicles for the deep-sea survey
- Single Array LIDAR prototype Development for Automobile Collision Avoidance & Parking Assist
- Data Validation and Visualization of LIDAR and IMU Sensors for Sensor Fusion

Senior Engineer – Research & Development – Arobot [2016–2017]

- A Novice Engineering/Tech Training Pedagogy Development - Cognitive Psychology based Analytics Framework to analyze, predict and design learning solutions by understanding Human Perception and Learning Behavior
- Multi-terrain Robot to support Natural Disaster Management - DRDO Project
- Designing & Rapid Prototyping of Modular Robots for hazardous environment Surveillance
- Wireless Beacon based Localization and Navigation to assist & monitor Mining Vehicles

Programming

MATLAB, Embedded C, C, Python, Ansible, Terraform,

SOFTWARES

MATLAB, LabVIEW, MOOS – IvP, ROS – Gazebo, Open CV, Coppelia Sim SMC Pneumatics Circuit Design Embedded IDEs Circuit Designing Suites

TOOLS

ROV - Blue robotics, Open ROV
AUV – Custom built prototype
Driverless Car – MooVita Shuttle
Robots – Kinovo, Festo, Onrobot,
Universal robots,
AMR – HikRobot, Roboteq
Industrial PC – Beckhoff Automation
GPU - Nvidia Tegra TX1
Vision – Kinect, Keyence, Hikvision
LIDAR – Velodyne, Pioneer
Side Scan Sonar – EdgeTech
IMU – Honeywell
GNSS – Spirent Emulator, Trimble, ublox
BMS & Controllers - Roboteq
Electro Pneumatics - SMC / FESTO

RESEARCH AREAS OF INTEREST

Perception,
Inertial Navigation System
Sensor Architecture Design,
Sensor Fusion, ADAS, SLAM
Electric Vehicles / Driverless cars
Modular Vehicle Development
Battery Management System
Marine Autonomy – AUV
Artificial Intelligence
Photography – Femto, Aerial
Industry 4.0, Healthcare, Wearables
Renewables, Zero Energy Structures
Climate Studies, AgriTech, Bioplastics
Nature Conservation Technologies
Intelligent Waste Management system

HOBBIES

Ornithology, Landscape Photography
Student's Startup Mentoring
Nature Conservation Awareness
Badminton, Yoga & Calisthenics

LANGUAGES

Tamil – Native,
English – Business Level Fluency, Hindi & Spanish – Intermediate Read & Write,
Japanese – Basics of Hiragana & Katakana

Engineer - Research & Development – Arobot [Jan 2014 – 2016]

- ZigBee Protocol based Home Automation Prototype
- IMU guided Gesture controlled Manipulator for Medical & Industrial Applications
- Pneumatics based Automation Unit for Horn plate Production line & Morphological Analysis – Quality Checking – Horn plates
- Robotics – Research Laboratory setup

Program Executor - Dharshini Learning Zone [Aug 2013 – Dec 2013]

Technical Skill Development – designed Training Approaches, Methodologies & Syllabus for Engineering Students' Career Development Programs

Production Engineer Trainee - Vaigai Engineering Pvt. Ltd

[2012 – 2013]

- MCB Assembly Line and Quality Checking Unit

ACCOMPLISHMENTS

- Won **UNO Reboot the Ocean Challenge 2020** by Cloudonomous – a cost-effective cloud autonomous system solution for mapping the oceans
- Developed a novice **cognition based pedagogy** for Tech learners
- My article on Marine Autonomous Systems – Technology, Opportunities and Use cases published in **IEEE India** Council Newsletter Apr-Jun 2019
- Guest lectured and trained various Faculties, Researchers, Students on Robotics & Autonomous Systems – Research & Innovations to solve the real-time challenges, Inspiring Biomimetic Designs in robotics and related topics in various reputed organizations

EDUCATION

Innovation Management – Erasmus University, Rotterdam

- **Coursera certification** [2021-2022]

B.E., - Electronics and Instrumentation Engineering

Anna University – Chennai

Kamaraj College of Engineering and Technology [2008 – 2012]

CGPA: 6.5/10

- **Blind People's Guide** – A Braille Interpreter was selected as the best project prototype in 2012
- **A modular & reusable CO capturing methodology for on-road vehicles** – selected for Anna University funding Project in 2011

HSC – Bio-Maths

K.V.S. Higher Secondary School, Virudhunagar [till 2008]

Percentage: 72.4%

- **Automatic Irrigation Device for Tropical region Agriculture** was awarded as one of the Best Projects in "Young Scientist State Level Contest" conducted by CII – Honeywell in 2006.