KRITHIK RAJ .A

MECHANICAL ENGINEERING GRADUATE

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PROFESSIONAL SUMMARY

Innovative Mechanical Engineering graduate with expertise in autonomous systems, Alintegration, and sustainable technology. Proven track record in leading multi-disciplinaryprojects from conceptualization to implementation, with published research and award-winninginnovations. Experienced in UAV systems, electric vehicle design, and IoT-based automationwith strong leadership and technical presentation skills.

EDUCATION

Incoming Graduate Student Sep 2025

MSc Robotics - University of Birmingham, United Kingdom

- School of Computer Science & School of Engineering (Joint Program)

Bachelor of Engineering in Mechanical Engineering 2021 - 2025

Sri Venkateswara College of Engineering, Chennai

- CGPA: 7.7/10 | Anna University Affiliated, Autonomous Institution

Higher Secondary Education 2019-2021

Velammal Vidyalaya, Paruthipattu

- Score: 86.2% | CBSE Board | HSC | Computer Science & Mathematics Group

Secondary Education Till 2021

Chennai Public School, Thirumazhisai

- Score: 70% | CBSE Board | SSLC

PUBLISHED RESEARCH

1. **Artificial Intelligence-based Autonomous Pesticide Spraying Drone Management for Sustainable Agriculture** 2025
   - International Conference on Advanced Materials, Manufacturing and Sustainable Development (ICAMMSD 2024)
     DOI: 10.2991/978-94-6463-662-8_84
     Co-authors: M. Arulkumar, S. Saravanan, V. Muthukumar
2. **Prediction of Tribological Characteristics of Biomaterials Using Artificial Neural Networks**
   - Journal of Materials and Engineering (JME)
     DOI: 10.61552/JME.2025.02.010

TECHNICAL SKILLS

Design & Engineering Software

- CAD/Design: Fusion 360 | AutoCAD 2d | Creo Parametric | Catia V5 (Intermediate)
- Simulation: MATLAB/Simulink, CFD Analysis, Finite Element Analysis (Basic)

Programming & AI/ML

- Languages: Python (Intermediate), C Programming (Basic), SQL (Basic)
- AI/ML Frameworks: TensorFlow, OpenCV, YOLOv5, Artificial Neural Networks, Computer Vision
- Data Science: Pandas, NumPy, Matplotlib, Data Analysis, Predictive Modeling

Specialized Technologies

- Robotics: Autonomous Systems, Sensor Integration, Mechatronics, Embedded Systems
- Drone Technology: Flight Controllers (Pixhawk), MAVLink, DroneKit, Path Planning
- Computer Vision: Real-time Object Detection, Image Processing, CNN Implementation

Other Tools

- Prompt Engineering (Intermediate)
- Canva (Advanced)
- Microsoft: Excel | Power Point | Word (Intermediate)

KEY PROJECTS

1. Autonomous Drone Integrating A.I. for Object Detection | Major Project **2024-2025**
2. Design and Fabrication of Automatic Pill Dispenser | Healthcare Innovation **2024**
3. SIEP E-Bike Challenge 2024 - Team E-Mortals | Innovation Award Winner **2024**
4. Smart India Hackathon - UAV Project | 2023 **2023**

PROFESSIONAL EXPERIENCE

Industrial Trainee | Hyundai Motor India Ltd

- Gained hands-on experience in supply chain management and total quality management
- Studied advanced engine manufacturing processes and lean production techniques
- Analyzed quality control systems and production optimization strategies

Technical Trainee | Schneider Electric Pvt Ltd

- Collaborated with R&D team on electrical systems testing and product development
- Gained expertise in automation technologies and control systems
- Participated in technical testing procedures and equipment validation

CERTIFICATIONS & ACHIEVEMENTS

Technical Certifications

- NPTEL-IIT Madras: Joy of Computing with Python | Elite Silver (80%)
- NPTEL-IIT Kanpur: Product Design and Manufacturing | Elite (72%)
- NPTEL-IIT Bombay: Understanding Incubation and Entrepreneurship | Elite Silver (78%)
- NPTEL-IIT Guwahati: Automation in Manufacturing | Elite Silver (78%)
- Coursera: Data Science Orientation | Digital Batch Certified

Awards & Recognition

- **Vice President** -Society Of Mechanical Engineers
- Innovation Award - SIEP E-bike Challenge, Bopal (2024)
- College Level Shortlist - Smart India Hackathon for Rescue Drone (2023)
- Published Research - 2 peer-reviewed papers in international journals/conferences

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Leadership Positions

- Vice President - Society of Mechanical Engineers (2024-2025)
- Executive Member - Bureau of Indian Standards (2022-2024)
- Member - National Sports Organisation, College Football Club (2021-2024)

Languages

- English: Professional Working Proficiency
- Tamil: Native/Bilingual Proficiency

RESEARCH INTERESTS & FUTURE GOALS

Current Focus Areas:

- Autonomous Robotics and Multi-robot Systems
- AI Applications in Healthcare and Agriculture
- Computer Vision and Machine Learning
- Mechanical and Robot Design
- Sustainable Technology Solutions