

CETHAN HARISHKUMAR

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OBJECTIVE

Motivated and detail-oriented Electronic and Electrical Engineer with a strong foundation in power distribution, lighting, earthing, lightning protection systems, control systems, and renewable energy. Passionate about integrating smart building solutions, digital automation, and sustainable technologies to drive innovation in electrical engineering. Seeking a dynamic role where I can apply my expertise in electrical building services, robotics programming, optical fiber communications, and power systems while continuously enhancing my technical and leadership skills. Dedicated to problem-solving, process optimization, and leveraging emerging technologies to improve efficiency and contribute to the success of a forward-thinking organization..

EDUCATION

MSc Electronic and Electrical Engineering with Industry

September 2023 – August 2025

Accredited by the Institution of Engineering and Technology (IET)

Swansea University

Swansea, United Kingdom

Predicted Grade: Distinction (Percentage: 78.39%)

BEng Electrical and Electronics Engineering

August 2017 – August 2022

Accredited by National Assessment Accreditation Counsel (NAAC)

Visvesvaraya Technological University

Belagavi, India

Grade: 2:1 (CGPA: 7.31/10)

WORK EXPERIENCE

Teaching Assistant

September 2024 – Present

Swansea University

Swansea, United Kingdom

Courses: Kinematics and Robotics Programming, Optical Fibre Communications and Analogue Electronics

- Led 20+ tutorials and lab sessions for over 100 students, providing personalized support on robotics concepts such as kinematics, motion planning, and sensor integration.
- Provided technical assistance in optical fibre communications by Delivering tutorials and labs for over 50+ students on Optical Fiber Communications, aiding students in signal transmission, modulation, and optical hardware analysis.
- Taught Analogue Electronics, focusing on circuit simulation, design, and component integration, helping students understand fundamental electronic principles and their practical applications..
- Collaborated with faculty to enhance course materials by developing supplementary learning resources and improving assignment design to strengthen student understanding.
- Graded 100+ student assignments and provided constructive feedback, helping students improve technical proficiency while contributing to course curriculum development through faculty meetings.

Intern

July 2019

CESC (Chamundeshwari Electricity Supply Corporation)

Hassan, India

A government-run electricity provider with over 5,000 employees and INR 40 crore in annual revenue

- Gained hands-on experience in power distribution, transformer maintenance, short circuit analysis, and earthing techniques.
- Analyzed electrical distribution networks and identified inefficiencies to improve load management and coordination.
- Assisted in developing maximum demand studies and performance reports, recommending corrective actions.
- Conducted site visits, ensuring adherence to safety protocols and enhancing on-site operational safety.

SKILLS

Technical Expertise:	MATLAB, LabVIEW, PSPICE, Revit MEP (3D Design), DIALux evo (Light photometric modelling), Microsoft Office and Multisim
Programming Languages:	Python, Java, SQL, HTML, CSS, JavaScript
Operating Systems:	Windows, Linux
Engineering Skills:	Power Electronics, Semiconductor Technology, Nanostructures, Fiber Optics, Microcontrollers, Digital Electronics, Signal Processing (Analog & Digital), Control Systems, Power Generation, Transmission & Distribution Systems
Soft Skills:	Critical Thinking, Analytical and Problem Solving, Communication, Teamwork, Adaptability, Continuous Learning, Technical report writing and Proactive

RESEARCH PROJECTS

Autonomous UAV Navigation in GPS-Denied Environments	June 2024 – September 2024
Master’s Dissertation, Swansea University	Swansea, United Kingdom
Objective: Engineered a real-time drone navigation system using ORB-SLAM3 for precise localization and mapping in GPS-denied environments.	
Technologies & Tools: ROS Noetic, ORB-SLAM3, OpenCV, Pangolin, Ubuntu 20.04, DJI Tello	
<ul style="list-style-type: none">Enhanced UAV navigation performance, improving 3D mapping accuracy by 35% and reducing trajectory drift by 30%, leading to better positioning and map consistency in dynamic, low-texture environments.Optimized real-time processing speed by 25% through the implementation of resource-efficient algorithms, overcoming hardware limitations and improving system responsiveness.Integrated sensor data streams to improve feature detection and tracking, resulting in 25% more reliable performance under variable lighting conditions.Ensured regulatory compliance and ethical standards, adhering to CAA regulations and GDPR guidelines while delivering innovative solutions for UAV navigation in GPS-compromised environments.	

Hybrid Vertical Axis Wind Turbine & Solar PV Power Generation System	March 2021 – August 2021
Bachelor’s Project, Vishveshwaraya Technological University	Belagavi, India
Objective: Designed a hybrid renewable energy system to generate electricity from vehicle-induced wind and solar energy.	
Technologies & Tools: Vertical Axis Wind Turbine (VAWT), Solar PV Panels	
<ul style="list-style-type: none">Designed and built a custom turbine blade system, improving mechanical efficiency by 20% and optimizing energy capture in hybrid wind and solar power systems.Integrated wind and solar energy sources to generate 30V, achieving a 15% increase in power output compared to wind-only systems, supporting sustainable energy applications.Led team collaboration and innovation, completing the project 10% ahead of schedule while developing a seamless hybrid system combining VAWT and solar PV technologies.Addressed design challenges and improved structural stability, enhancing performance under varying wind conditions by 25% and contributing to eco-friendly energy solutions for urban settings.	

CERTIFICATES

Java Full Stack Development	December 2022
Jspiders, India - Completed professional courses in Core Java, J2EE, SQL, Web Technology, and Frameworks.	
Basics of Git and GitHub	July 2020
PyhJs, Microsoft Student Partners - Participated in an online event covering Git and GitHub basics.	
Image Processing Using MATLAB	July 2020
Vidyavardhaka College of Engineering, Mysore - Scored 90% in Image Processing quiz.	