# ACHIRANGSHU PATRA

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## Career Objective

Aspiring to contribute to advanced research and innovation in the R&D domain, leveraging my extensive experience in Industrial Automation, AI/ML applications, and Industry 4.0 solutions. With a strong foundation in PLC, HMI, SCADA, and Robotics, I aim to drive impactful advancements in Predictive maintenance, Digital twins, and Smart factory implementations. My academic background in Electrical Engineering, Mechatronics, and Artificial Intelligence further empowers me to deliver state-of-the-art solutions for complex industrial challenges.

## Education

**2023–Present**  **Ph.D. in *Mechatronics Engineering*** , *C.V.Raman Global University, Odisha, India*.
**Supervisor:** (Dr.)Sanjeet Kumar Subudhi

**2024**  **Post Graduate*(AICTE-QIP-PG Certificate Programme)* in *Artificial Intelligence and its Application*,** *Indian Institute of Technology Kharagpur, India*.
**Supervisor:** (Dr.)Sourangshu Bhattacharya

**2021–2022**  **M.Tech in *Mechatronics Engineering*** , *C.V.Raman Global University, Odisha, India*.
**Thesis Title:** An Ensemble Framework for Glaucoma Classification Using Fundus Images.
**Supervisor:** (Dr.)MZ Lazarus
**Percentage:** 85.6/100

**2018-2019**  **Post Diploma in *Industrial Automation and Robotics*,** *MSME Central Tool Room and Training Centre, Bhubaneswar, India* .
**Percentage:** 92%

**2012–2016**  **B.Tech in *Electrical Engineering*,** *Budge Budge Institute of Technology (BBIT),West Bengal, India* .
**CGPA:** 7.59/10

**2012**  **Higher Secondary Examination** $12^{th}$, Bankura Banga Vidyalaya, West Bengal, India.
**Percentage:** 70%

**2010**  **Secondary Examination** $10^{th}$, Purulia Zilla School, West Bengal, India.
**Percentage:** 76.62%

## Experiences

**2023-Present**  **Assistant Professor**, *C.V. Raman Global Univerity, Odisha* .
WORKING DOMAIN: Electrical Engineering

**2019-Present**  **Mentor**, *Worldskills Training*.
WORKING DOMAIN: Industrial Control , Industry 4.0

| 2022-Present | **Incharge**, *Mitsubishi Electric Authorized Training Center, CGU*. |
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| | WORKING DOMAIN: Factory Automation Training |
| 2019-2023 | **Teachinacal Trainer**, *SSEPL Skills Pvt. Ltd*. |
| | WORKING DOMAIN: Industrial Training |

## Publications

### In Conference Proceedings

2024 Yashika, Achirangshu Patra, and Nitai Sunder Das. Human-machine interaction in industrial automation: Gesture-based plc control. In *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, pages 1–7, 2024.

2024 Aaditya Kumar Pradhan, Achirangshu Patra, Jasaswinee Sahoo, Sk Abdul Sajeed, Avs Sai Teja, and Yashika. Optimizing iot: Integrating smart-sensor data fusion on mitsubishi rv-4frl robot arm with data processing and visualization. In *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, pages 1–6, 2024.

2023 Achirangshu Patra, Arijit Nandi, Mayaluri Zefree Lazarus, and Satyabrata Lenka. An ensemble framework for glaucoma classification using fundus images. In *Soft Computing: Theories and Applications: Proceedings of SoCTA 2022*, pages 573–588. Springer, 2023.

2023 Achirangshu Patra, Saubhagya Ranjan Behera, and Nitai Sunder Das. Empowering india's industry 4.0 excellence: Pioneering training methodologies for worldskills competition preparation. In *2023 International Conference on Intelligent Computing, Communication & Convergence (ICI3C)*, pages 498–503. IEEE, 2023.

## Achievements & Awards

2024 Under my mentorship, one of my students secured the 1st prize in the Janatics Automation Skill Challenge 2024 and also received the Best Prototype Award under the Special Category Award.

2024 Under my mentorship, led students to win silver in India Skills & gold, silver, and bronze in Odisha Skills for industrial control.

2023 Under my mentorship, a student achieved the Best Project award at the 3rd ATC Meet hosted by Mitsubishi Electric.

2022 Felicitated by the Chief Minister of Odisha for contributions to India Skills

2022 Under my mentorship, students secured gold in India Skills, representing India in WorldSkills and BRICS competitions for Industry 4.0.

## Skills

Experienced in automation technologies, including PLC programming (Siemens, Mitsubishi Electric, Schneider Electric, Bosch Rexroth, Allen Bradley), HMI design, SCADA systems, industrial drives (Siemens, Mitsubishi Electric), and industrial robotics. Proficient in implementing Industry 4.0 solutions, such as Industrial IoT and real-time data analytics, with expertise in Node-RED and MySQL for data integration and management. Skilled in industrial wiring, electrical installations, and troubleshooting. Experienced in AI/ML applications, particularly in image processing and Large Language Models (LLMs). Adept at Python programming for AI/ML and automation tasks. Strong problem-solving and team collaboration abilities.

## Training

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| Nov 2024 | **Certified trainer training program by Mitsubishi Electric Pvt. Ltd., MIDC Pune**, Pune, India. |
| June-July 2023 | **Certified trainer training program by Mitsubishi Electric Pvt. Ltd., MIDC Pune**, Pune, India. |
| Dec 2014-May 2015 | **Vocational Training at Indian Institute of Technology, Kharagpur** , West Bengal,India. |
| Dec 2014-Jan 2015 | **Vocational Training at South Eastern Railway training center, Kharagpur** , West Bengal,India. |
| June-July 2014 | **Vocational Training at Garden reach shipbuilders and engineers limited**, West Bengal, India. |

## Research Area of Interests

Industry 4.0, Industrial Automation, Predictive Maintenance, Low-cost smart factory Implementation, Image Processing, Mechatronics, Artificial Intelligence, Machine Learning, Large Language Model(LLM)

## Language Known

English, Hindi, Bengali

## Referral

**Biswanath Paul**, Application Engineer - Automation & IIOT, Lenze Mechatronics - Reputed German MNC

**Arijit Nandi**, Machine Learning Researcher, Data Science and Big Data Analytics Unit, Eurecat – Technological Center of Catalonia, Edifici Cornerstone – Carrer Bilbao 72, Edifici A, Planta 2 - 08005 – Barcelona