

Enggar Ira Elyana

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SUMMARY

Fresh Graduate in Chemistry with 3+ years of laboratory and research experience in analytical testing, laboratory analysis, and physicochemical characterization. Experienced in operating analytical instruments, performing laboratory testing, interpreting analytical data, and preparing technical reports using GC-MS, UV-Vis, AAS, FTIR, XRD, Raman spectroscopy, FESEM/SEM, XPS, Surface area analysis, WCA and PSA. Knowledgeable in ISO/IEC 17025, and quality control principles, with a strong commitment to generating accurate, reliable, and high-quality laboratory results. Seeking opportunities as an Analytical Chemist, QC Analyst, or Laboratory Analyst.

EXPERIENCE

Nov 2025 — July 2026

Thesis Research

Surabaya

- Performed laboratory synthesis of nitrogen- and sulfur-co-doped porous carbon materials by following controlled experimental procedures and optimizing synthesis conditions.
- Conducted analytical characterization with 8 analytical techniques (FTIR, XRD, Raman spectroscopy, FESEM/SEM, XPS, surface area analysis, WCA, and PSA) to evaluate material quality, structure, and composition.
- Interpreted characterization data using 3+ Software (ChemDraw, OriginPro, CasaXPS, and ImageJ) to verify analytical results, troubleshoot laboratory issues, and prepare technical reports.

Jan 2026 — March 2026

Research internship, Chinese Culture University

Taipei, Taiwan

- Conducted laboratory testing of advanced porous carbon materials through carbonization, chemical activation, and physicochemical characterization.
- Performed sample preparation and optimized laboratory procedures through troubleshooting to ensure reliable and reproducible analytical results.
- Collaborated with an international research team to perform laboratory analyses, interpret analytical data, and prepare technical documentation.

Jan 2025 — Feb 2025

Gas Engineer Intern, PT Energi Agro Nusantara (PT ENERO)

Mojokerto, East Java

- Performed laboratory testing of 10+ physicochemical and biogas quality parameters to monitor anaerobic digestion performance and stability.
- Interpreted laboratory data to evaluate biogas quality, operating parameters, and created process flow diagrams with software EdrawMax for reporting.
- Conducted a preliminary techno-economic analysis, assessing energy consumption, operating costs, and profit-loss to evaluate biogas utilization feasibility.

Nov 2023 — Jun 2026

Researcher, Science and Technology Research Development (STRD), Antasena ITS Team

Surabaya

- Contributed to experimental testing and laboratory evaluation of a hydrogen-powered vehicle prototype by assessing fuel cell performance and hydrogen storage systems.
 - Interpreted experimental data to identify performance issues, troubleshoot technical problems, and evaluate prototype reliability.
 - Collaborated with multidisciplinary engineering teams to prepare technical reports, communicate analytical findings, and support prototype performance evaluation.
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EDUCATION

Aug 2022 - July 2026

Bachelor's Degree in Chemistry (B.Sc.),

Institut Teknologi Sepuluh Nopember (ITS), Surabaya

Relevant Coursework

- GPA: 3.30 / 4.0
- Analytical Chemistry, Instrumental Analysis, Physical Chemistry, Organic Chemistry, Inorganic Chemistry, Polymer, Material.

SKILL

Laboratory & Characterization

X-ray Diffraction (XRD)
X-ray Photoelectron Spectroscopy (XPS)
Fourier Transform Infrared Spectroscopy (FTIR)
Raman Spectroscopy
Field Emission Scanning Electron Microscopy (FESEM)
Surface Area Analysis (SBET)
Particle Size Analysis (PSA)
Water Contact Angle (WCA) Analysis
Gas Chromatography–Mass Spectrometry (GC-MS)
Atomic Absorption Spectrophotometer (AAS)
Spektrofotometer UV-Vis
Gravimetri

Laboratory Analysis

Laboratory Testing
Sample Preparation
Analytical Characterization
Data Interpretation
Literature Review
Technical Reporting
Scientific Writing

Software

OriginPro Lab
ChemDraw
CasaXPS
Microsoft Office
ImageJ

Certifications

1. ISO 9001: Quality Management System (QMS) Auditor Training – Udemy (2026)
2. Basic Good Manufacturing Practices (GMP) – Udemy (2026)
3. Jaminan Mutu Pengujian Laboratorium Sesuai ISO/IEC 17025 – PT Maja Sains Indonesia (2026)
4. Seven Quality Tools for Quality Management: 7 QC Tools – Udemy (2026)

LANGUAGES

Indonesia	Native	English	Advanced
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OTHERS

Publications :

1. Conversion of LDPE Plastic Oil to Gasoline by Supercritical Water Liquefaction – Jurnal Ilmu Dasar FMIPA Universitas Jember, Jan 2024
Applied pyrolysis and SWL with zeolite catalysts, achieving 11% gasoline yield.
DOI/URL : <https://doi.org/10.19184/jid.v25i1.44150>
2. Optimizing Nafion Membranes for Hydrogen Fuel Cells – International Seminar, Universitas Tulungagung, Dec 2024
Improved proton exchange efficiency to enhance fuel cell performance.
3. BAREFOOT: Food Waste to Hydrogen Production – Conference on Waste Treatment Technology, Nov 2024
Investigated sustainable hydrogen generation via waste-to-energy methods.

Honors & Awards :

1. 1st Place – PLN ICE Hydrogen Motorcycle Design, PLN R&D Center, Dec 2024
2. Gold Medalist – SICLUS International Innovation Competition, Sep 2024
3. Best Paper & 3rd Winner – TRYCITI Scientific Writing Competition, Aug 2024
4. 3rd Winner – EVERGREEN Scientific Essay Competition, Nov 2023
5. 4th Runner-up – National Paper Competition “Device”, Oct 2023
6. Finalist – Renewable Energy Innovation Competition (PFsains), Jul 2023
7. Research Grant Recipient – PKM-RE, Kemendikbud Ristek, Jun 2023

Projects :

1. KKN RO Membrane Project (Jun–Oct 2024)
Designed and implemented a rural-scale RO system for clean water (SDG 6).
2. Supercritical Water Liquefaction (SWL) Project (Jan–Dec 2023)
Developed waste-to-fuel conversion using catalyst optimization and fuel characterizatio