

KEVIN AINAL RIZKI FADILLAH

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Bekasi, West Java

Fresh graduate in Chemical Engineering from Universitas Brawijaya with a strong interest in laboratory research including bio-based nanomaterials, energy conversion, sustainable environment, and quality control. Experienced in green nanoparticle synthesis, material characterization, phytochemical analysis, antibacterial testing, as well as paper product quality control and dye wastewater treatment. Proficient in material characterization, phytochemical analysis, antibacterial assay, wastewater treatment, scientific writing, and literature review. Actively participated in national scientific competitions with multiple awards, demonstrating strong analytical skills in waste and biomass conversion using green catalysts and research communication abilities.

EDUCATION

Brawijaya University  - Malang, Indonesian

Aug 2022 - Jul 2026

Bachelor of Chemical Engineering, 3.68/4.00

- Laboratory Experience: Analytical chemistry, physical chemistry, organic chemistry, bioprocess engineering, and chemical engineering operations.
- Experienced in UV-Vis spectrophotometry (single beam) and FTIR analysis using the KBr pellet method.
- Awardee of PT. AKR Land Development Scholarship
- Lecturer Research Assistant Bio-based Nanomaterials
- 1st Winner Scientific Paper, MIPA Road to Scientific #13, Universitas Negeri Yogyakarta
- 1st Winner Scientific Paper, Diponegoro Science Competition, Universitas Diponegoro
- 1st Winner Essay, LOKASI Dipointion, Universitas Diponegoro
- 1st Winner Essay, MIPA EXPO UNIB, Universitas Bengkulu
- 2nd Winner Essay, FORPIMAWA DIY, FORPIMAWA DIY & LLDIKTI Wilayah V
- 2nd Winner PKM K, CREACTION, Universitas Wiraatja
- 2nd Winner Scientific Paper, AXFORIA MIPATI, Universitas PGRI Semarang
- 3rd Winner Industrial Study Case, Chemical Engineering Universe (CHEVERSE), Universitas Pertamina
- 3rd Winner Essay, Vitalize 1.0, Zero Triple
- 3rd Winner Essay, Chemistry Project, Universitas Mulawarman
- Top 10 Finalist Essay, National Independence Competition, Universitas Negeri Surabaya
- Silver Medal Essay, Mandalika Essay Competition 4, Universitas Nahdlatul Wathan Mataram

RESEARCH & PROFESSIONAL EXPERIENCE

PT. Pura Barutama - Kudus, Central Java

Jan 2025 - Feb 2025

Quality Control Intern

- Performed quality control testing on paper products including tensile, tearing, folding, brightness, and Cobb test.
- Assisted R&D team in dye degradation experiments using calcium hypochlorite and solar UV, with turbidity and TSS analysis under variations of degradation time and calcium hypochlorite concentration.
- Achieved optimal efficiency with 75% turbidity and 79% TSS removal at 0.3% calcium hypochlorite concentration under 4-hour UV exposure.

FERTINNOVATION 2025 - PT. Pupuk Indonesia

Jul 2025 - Nov 2025

Participant

- Literature review on NPF formulation (PERMENTAN No. 13/2022) studying chemical analysis & characterization methods.
- Reviewed performance data: 47% yield increase & 56.3% N₂O reduction (IPCC methodology).
- Economic feasibility analysis: BEP 70.1%, ROI 20%, BCR 1.2.

National Scientific Writing - Various Universities

Jul 2025 - Jul 2026

Presenter

- Conducted basic research and development through literature review and secondary data analysis on microalgae- based CO₂ capture, biodiesel production, and sustainable nanomaterials including Carbon Quantum Dots and Aggregation-Induced Emission for enhanced photosynthesis.
- Secured multiple national awards including 1st Winner Scientific Paper and 1st Winner Essay in various competitions

Industrial Case Study - Pertamina University

Dec 2025 - Feb 2026

Presenter

- Delivered an industrial case study on SSF and SHF methods for bioethanol fermentation from palm oil EFB via Aspen Plus simulation, with findings presented at a national-level academic competition.
- Defended the proposed industrial design before expert judges, including a Pertamina technical assessor, and secured 3rd Winner in

the national competition.

National Scientific Writing - Universitas Negeri Yogyakarta

Jan 2026 - May 2026

Presenter

- Presented a literature review on upcycling PET waste into UiO-66-EDTMP MOF as a recyclable nanoplastics adsorbent, highlighting its exceptional adsorption performance and reusability.
- Delivered the research findings at a national-level academic forum, competing against top universities across Indonesia, and awarded 1st Winner.

Lecturer Research Project - Brawijaya University

Jan 2026 - Sekarang

Research Assistant

- Performed green synthesis of TiO₂ nanoparticles using kaffir lime leaf extract as a natural bioreductant and capping agent, with pH variations of 8, 9, 10, and 11 to evaluate their effect on particle characteristics.
- Designed and planned experimental variables, including the effect of precursor concentration on nanoparticle synthesis to optimize particle size and antibacterial performance.
- Conducted comprehensive material characterization using FTIR, FESEM, and XRD, along with antibacterial testing against *E. coli* and *S. aureus*, targeting publication in a Scopus-indexed journal with a minimum Q4 ranking.

LEADERSHIP & ORGANIZATION EXPERIENCE

Society of Renewable Energy (SRE)

Sep 2023 - Jun 2024

Manager of Competition

- Coordinated 7 member competition division at SRE UB, designing frameworks for essay and study case competitions, including timelines, judging mechanisms, and guidebooks.
- Managed liaison duties for judges and speakers from Pertamina NRE and PGN, supervised LO teams, and handled abstract selection and paper collection.
- Exceeded the participant target, achieving 241 participants from a 200-target goal.

Pusat Layanan Disabilitas (PLD UB)

Sep 2023 - Mar 2025

Volunteer

- Provided academic and mobility assistance to students with disabilities, adapting support to individual needs.
- Served as a trainer and speaker for new volunteer recruitment, delivering guidance on assisting visually impaired students.
- Helped train and onboard new volunteers, contributing to the expansion of the volunteer team.

Perhimpunan Pelajar Sains Nasional (PPSN)

Oct 2023 - Jul 2024

Data Analyst Staff

- Evaluated work programs from all divisions
- Analyzed and interpreted data to be utilized for PPSN using Microsoft Excel
- Increased work program efficiency across divisions by predicting members' free time

ENGINEEDS 2025

Jan 2025 - May 2025

Liaison Officer Staff

- Acted as liaison between the committee and PKM DIKTI UB essay judges, as well as scholarship speakers from TANOTO, LPDP, and content creator Enrique Owen.
- Ensured smooth communication and coordination between speakers and the committee throughout the event.
- Maintained a professional and reliable communication channel, contributing to the event's overall success.

PETROQUEST

Jul 2025 - Oct 2025

Manager of Design & Documentation

- Served as Manager of Design and Documentation, leading a team of 5 members.
- Managed the design and production of competition guidebooks, posters, and social media content.
- Increased Instagram followers by more than 200 followers.
- Developed new skills in design, content creation, and team coordination beyond my technical background.

Skill and Project

- **Soft Skills:** Scientific writing, literature review, research communication, analytical thinking, team coordination, laboratory management, and public speaking.
- **Hard Skills:** Green nanoparticle synthesis, formulation, material characterization (FTIR, FESEM, XRD), UV-Vis spectrophotometry, antibacterial assay, phytochemical analysis, wastewater treatment (turbidimeter, TSS), statistical applications (GraphPad Prism, Excel), analysis software (ImageJ, Expert Highscore, Origin), quality control testing, Microsoft Office, SketchUp, Canva, Visio, Google Data Studio, and Tableau.