

FARSEEN HALLAG

Chemical Engineering Undergraduate | B.Tech, Expected 2027

Kochi, Kerala | +91-9746161885 | hallagfarseen1218@gmail.com | [linkedin.com/in/farseenhallag2025](https://www.linkedin.com/in/farseenhallag2025)

Chemical engineering undergraduate with hands-on plant exposure across ammonia-based fertilizer manufacturing and chlor-alkali production, and project experience spanning solar-thermal reactor design (patent filed), hybrid renewable energy systems, and waste-to-fuel catalysis. Seeking a core process/HSE engineering internship to apply simulation and process-safety skills to real plant problems.

TECHNICAL SKILLS

Process & Plant: Material & Energy Balance, Process Safety, Calibration & Maintenance, Membrane Cell Electrolysis, Contact Process, Haber Process, Direct Neutralisation, Centrifugation, Mass Transfer, Heat Transfer, Thin Layer Chromatography

Simulation & Design Software: ASPEN Plus, ANSYS, MATLAB, Creo, Proteus

Programming & Other Tools: Python, HTML, Google Earth Pro, basic QGIS

Soft Skills: Adaptability, Problem-Solving, Teamwork, Attention to Detail, Leadership, Critical Thinking, Decision Making, Multilingual Communication

EDUCATION

Lovely Professional University — B.Tech, Chemical Engineering 2023 – 2027

Current CGPA: 7.00 | Phagwara, Punjab

Benchmark International School — 12th Grade 2022 – 2023

Percentage: 78.00% | Tirur, Kerala

Teresa Spinelli Public School — 10th Grade 2020 – 2021

Percentage: 96.00% | Kochi, Kerala

INTERSHIPS

Trainee — The Fertilisers and Chemicals Travancore Ltd. (FACT) Jul 2025

- Studied large-scale ammonia-based fertilizer manufacturing workflow, including Direct Neutralisation, Centrifugation, and Scrubbing stages, alongside industrial utility systems such as compressed air networks, compressors, and heat exchangers.
- Trained in pollution control systems and acid plant safety protocols, with direct exposure to chemical leak prevention measures.

Trainee — The Travancore Cochin Chemicals Ltd. (TCC) Jun 2025 – Jul 2025

- Studied the chlor-alkali production process, including membrane cell electrolysis and brine purification, alongside process instrumentation systems such as control valves, field instruments, and plant monitoring dashboards.
- Completed safety training and participated in mock emergency drills, gaining direct exposure to plant emergency response procedures.

PROJECTS

Solar Thermal Batch Reactor for Polymer Processing Nov 2025 – Jan 2026

- Conceptualized a solar-thermal batch reactor with phase-change-material (PCM) heat storage and passive mixing for processing high-viscosity polymers; patent filed.
- Applied heat transfer, thermal energy storage, and mass transfer principles to the reactor's thermal and mixing design for non-Newtonian, high-viscosity fluids.

Design & Simulation of Hybrid Renewable Energy System for Coastal Power Supply Nov 2025

- Designed and simulated a hybrid system integrating solar, wind, and ocean energy sources, applying system-integration and load-balancing principles to model reliable, off-grid coastal power supply.

Red Mud–Hydroxyapatite Catalyst for Waste-to-Fuel Conversion Sep 2025 – Nov 2025

- Conceptualized a dual-phase, reusable catalyst combining red mud and hydroxyapatite, applying heterogeneous catalysis and waste valorization principles to enhance hydrothermal liquefaction of wet food waste into fuel.

CERTIFICATIONS & WORKSHOPS

International Workshop on Gas Hydrates for the Future: Innovation, Energy Transition, and Sustainability Jun 2025

Workshop on Aspen Simulation Software — Lovely Professional University (LPU) Sep 2025

Short-Term Course on Geospatial Technologies: Theory, Practice and Future Directions Mar 2025

Communicating with Data — Saylor Academy Nov 2023

Generative AI Mastermind — Outskill & Growth School Jun 2025

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

- Mentored a 3-member team to a 3rd-place finish at SPECTRA (Feb 2026).
- Served as Quizmaster for the National Science Day Inter-University Quiz (Feb 2026) after defending the title as reigning champion (Feb 2025).
- Multiple inter-university recognitions in quiz and cultural events, 2025–2026: Gold Medal (AIU National Youth Fest, Cultural Procession), Bronze Medal (AIU Zonal Youth Fest), and participation in Alfaaz — IIT Kanpur's national literary quiz.