

Kavindu Sanjana Senavirathna

Chemical and Process Engineering Undergraduate

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[LinkedIn](#) | [Portfolio](#)

Objective

I am a 3rd year Chemical and Process Engineering undergraduate student with a strong interest in chemical and processing industry. Through my academic knowledge and the projects, I have built solid foundation. I am seeking an engineering internship to apply my theoretical knowledge to practical industrial challenges and gain hand on experience.

Education

BSc (Hons) Chemical and Process Engineering | 2024 – Present

University Of Moratuwa

CGPA: 3.19 / 4.00

Am/D.S.Senanayaka National School

Advanced level results: Z-score: 2.2577 (3As), Island rank: 524

Ordinary level results: 9A's (Distinction passes)

Other Certifications

- Excel Skills for Business: Essentials by Macquarie University
- Introduction to Process Safety and Risk Analysis by University of California, Davis (ongoing)

Skills

Transferable Skills

- Analytical problem solving
- Adaptability
- Teamwork
- Technical communication
- Time management
- Commercial awareness

Languages

- Sinhala (Native)
- English

Technical Skills

- Simulation: Aspen Plus
- Programming and computation: MATLAB, Python
- CAD: Solid Edge
- Productivity: MS office

Projects

Tray-Type Distillation Column Design of a gas-liquid contact column for a binary mixture separation

Tools/methods used: McCabe-Thiele method, Aspen Plus, Empirical Correlations

- Designed a sieve tray distillation column featuring a total condenser and a partial reboiler to separate a 30 kmol/hr heptane-octane feed into a 95 mol% heptane distillate.
- Delivered a fully specified column design requiring 23 actual trays, successfully verifying the parameters against weeping and entrainment limitations for safe operation.

Industrial Furnace Energy Audit — Thermal efficiency evaluation and optimization of a steel reheating furnace

Tools/methods used: Sankey diagrams, Cost-Benefit Analysis, Energy & Mass Balances

- Conducted a comprehensive energy audit of a 30 ton/hr pusher-type steel reheating furnace to quantify thermal inefficiencies and exhaust losses.
- Utilized SankeyMATIC to visually map energy streams and performed economic calculations to determine payback periods for proposed retrofits.
- Identified potential energy savings and proposed practical recovery measures.

Phase Equilibria Thermodynamic Analysis — VLE modeling and behavior evaluation for an acetic acid-water system

Tools/methods used: Microsoft Excel, Graphical Plotting, Thermodynamic Modeling

- Investigated the vapor-liquid equilibrium behavior of a binary acetic acid-water system to assess its separation feasibility.
- Used Microsoft Excel to tabulate experimental data, identify dew and bubble points via tie-line analysis, and construct accurate boiling-point composition and equilibrium curves.
- Concluded that simple distillation is inefficient due to a tangent pinch point and a negative deviation from Raoult's Law, recommending heterogeneous azeotropic distillation for industrial processing.

Leadership & Extracurricular Activities

- Member of Institute of Engineering and Technology on Campus University of Moratuwa
- Participating in Spring 2026 ChemE-Sports™ Competition from New York and Worldwide.

Referees

Dr. Mahinsasa Rathnayake

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