Rungroj Yadbantung, Ph.D.

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🌐 https://rungrojy.github.io/

Project History

2022 – 2023	**Development of Artificial Intelligence-Integrated Drug Discovery Platform** **Responsibilities:** • Developed a Thai herb database and web application. (https://herb.cloudns.ph/) • Integrated research data from international databases. • Implemented natural language processing techniques, such as named entity recognition. **Collaboration:** Mahidol and Chulalongkorn Universites
2020 – 2021	**Creating an Energy Baseline Model for a Natural Gas Separation Plant** **Responsibilities:** • Analyzed energy usage data using a machine learning approach. • Developed an energy baseline model. **Collaboration:** PTT and Mahidol University
2019 – 2020	Modeling and Simulation of Refractory Bricks in Rotary Cement Kilns **Collaboration:** SRIC and Mahidol University
2017 – 2018	Computational Fluid Dynamics Modeling of LDPE Tubular Polymerization Reactor **Collaboration:** SCG Chemicals and Mahidol University

Education

2015 – 2020	**Doctor of Philosophy** (Integrated Chemical Engineering), Mahidol University, Thailand • Thesis title: *Robust Output Feedback Model Predictive Control with Applications to Chemical Processes* • Received the 60th Year Supreme Reign of His Majesty King Bhumibol Adulyadej Scholarship.
2011 – 2015	**Bachelors of Engineering** (Chemical Engineering), Mahidol University, Thailand • Graduated with First Class Honors. • GPA: 3.70

Research Publications

Journal Articles

1. **R. Yadbantung** and P. Bumroongsri, "Periodically time-varying economic model predictive control with applications to nonlinear continuous stirred tank reactors," *Computers & Chemical Engineering*, vol. 157, p. 107 602, 2022, ISSN: 0098-1354. 🔗 DOI: 10.1016/j.compchemeng.2021.107602.

2. **R. Yadbantung** and P. Bumroongsri, "Tube-based robust output feedback mpc for constrained ltv systems with applications in chemical processes," *European Journal of Control*, vol. 47, pp. 11–19, 2019, ISSN: 0947-3580. 🔗 DOI: 10.1016/j.ejcon.2018.07.002.

Conference Proceedings

1   **R. Yadbantung** and P. Bumroongsri, "Nonlinear model predictive control of chemical reactors with uncertain economic costs," in *Proceedings of the 8th PSE Asia*, Bangkok, Thailand, 2019.

2   **R. Yadbantung** and P. Bumroongsri, "Robust model predictive control of uncertain chemical reactors," in *Proceedings of the 5th TIChe International Conference*, Pattaya, Thailand, 2015.

Skills

Languages	◪ Proficient in reading, writing, and listening to English, as demonstrated by a TOEIC score of 735.
Coding	◪ Python, R, MATLAB, Java, SQL, Cypher
Databases	◪ Neo4j, MySQL, SQLite.
Web Dev	◪ HTML, CSS, JavaScript, TypeScript, Apache Web Server, Node.js.
Misc.	◪ Academic research, teaching, training, consultation, LaTeX typesetting and publishing.