Rungroj Yadbantung, Ph.D.

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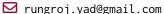
Project History

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.
Engineering Tools	Aspen Plus, Ansys Fluent, OpenFOAM,
Coding	Python, MATLAB, SQL, Cypher
Databases	Neo4j, MySQL, SQLite.
Web Dev.	HTML, CSS, JavaScript, TypeScript, Node.js.
Misc.	Academic research, teaching, training, consultation.