Dhup Bhukdee

Bangkok, Thailand
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Clinical data scientist. M.D. candidate. Expected graduation April 2027. Updated 2026-08-18.
Languages: Thai (Native). English (Fluent).

EDUCATION

M.D., Chulalongkorn University, Bangkok, Thailand **Expected April 2027**

B.S., Mahidol University International College, Nakhon Pathom, Thailand **2022**

Major: Biomedical Sciences. First Class Honors. Minors: Chemistry and Computer Science.

PEER-REVIEWED PUBLICATIONS, FIRST OR LAST/CORRESPONDING AUTHOR

Jangiam, W., Swangpun, K., Iamsirithaworn, S., Piriyasatit, S., and Bhukdee, D. "Relative vaccine effectiveness of ChAdOx1/AZD1222 vaccines as booster dose via intradermal injection with a one-fifth dose compared with the intramuscular injection in the prevention of SAR-CoV-2 infections in Phuket: A retrospective cohort study." International Journal of Infectious Diseases 2024; 147:107179. doi: 10.1016/j.ijid.2024.107179. (Special Issue: IJID 25th Anniversary) (Last and corresponding author)

Bhukdee, D., Nuwongsri, P., Israsena, N., and Sriswasdi, S. "Improved delineation of colorectal cancer molecular subtypes and functional profiles with a 62-gene panel." Molecular Cancer Research 2023; 21(3):240-252. doi: 10.1158/1541-7786.MCR-22-0476. (March 2023 Journal Cover) (First author)

Bhukdee, D. and Limpanuparb, T. "Matching Five White Solids to Common Chemicals: A Dissolution Calorimetry and Acid-Base Titration Experiment." Journal of Chemical Education 2020; 97(8):2356-2361. doi: 10.1021/acs.jchemed.0c00291. (First author)

RESEARCH EXPERIENCE

Researcher and Data Scientist, Chulalongkorn University **Jul 2020 - Present**

Centers: Computational Molecular Biology (CMB@CU); AI in Medicine (CU-AIM); Cognitive, Clinical and Computational Neurosciences (CCCN).

- Developing clinical applications that integrate AI-learned MCI subtypes with clinical relationships.
- Designed machine-learning models to subtype MCI using MoCA domain profiles.
- Developed a deep-learning (U-Net) pipeline for spinal MRI segmentation to support patient management and surgical planning.
- Led analysis and manuscript preparation for the colorectal-cancer gene-panel study. First-author publication in Molecular Cancer Research.

Data Scientist, The Gang Technology Co., Ltd. (COVID-19 Vaccine Effectiveness Project) **Oct 2022 - Dec 2024**

- Designed case-control and cohort studies for national vaccine-effectiveness reports.
- Developed data pipelines and statistical models for vaccine-efficacy analysis.
- Analyzed and advised on national policy for COVID-19 booster frequency.
- Last and corresponding author on the resulting publication in the International Journal of Infectious Diseases.

Student Researcher (Chemistry), Mahidol University International College **2019 - 2022**

- Designed a new integrated calorimetry and titration experiment.
- Helped design a feedback system for chemistry education.
- First-author publication in the Journal of Chemical Education.

Queen Savang Vadhana Memorial Hospital, Chonburi, Thailand **Dec 2024 - Present**

- Clinical clerk at Queen Savang Vadhana Memorial Hospital since December 2024.
- Extern at Queen Savang Vadhana Memorial Hospital from November 2025.

TECHNICAL SKILLS

Languages and reproducibility: Python; Git, DVC, MLflow, Optuna (experiment tracking and reproducible pipelines).
Machine learning and statistics: scikit-learn, deep learning (U-Net segmentation), survival analysis, Bayesian modeling (NumPyro), conformal prediction, model calibration, SHAP.
Neuro / biomarker methods: unsupervised community detection (Leiden/Louvain), multi-site batch harmonization (ComBat/CovBat), FreeSurfer/FastSurfer, ATN biomarker anchoring, TRIPOD+AI-compliant reporting.

CONFERENCE PRESENTATIONS

2026 American Academy of Neurology Annual Meeting, Chicago, IL, USA **Apr 2026**

- Poster (P8-12.008): "MoCA Uses Beyond MCI Screening: Data-driven MoCA Score-based Subtypes for Prediction of Dementia Outcomes and Neuroimaging Feature Analysis." Bhukdee D, Kasemsantitham A, Sriswasdi S, Chunharas C. Published abstract: Neurology 2026; 106(11_Supplement_1):1048; doi: 10.1212/WNL.0000000000213276

27th World Congress of Neurology, Seoul, South Korea **Oct 2025**

- Poster presented: "Predicting mild cognitive impairment and dementia progression using MoCA score-based subtyping and cognitive decline cascade analysis with unsupervised machine learning." Published abstract: Journal of the Neurological Sciences

2025; doi: 10.1016/j.jns.2025.124307

37th European College of Neuropsychopharmacology Congress, Milan, Italy **Sep 2024**

- Poster presented: "Predicting dementia conversion using Montreal Cognitive Assessment score-based mild cognitive impairment subtyping and cognitive decline cascade analysis with unsupervised machine learning." Published abstract: Neuroscience Applied 2024; doi: 10.1016/j.nsa.2024.104424

47th International Congress on Science, Technology and Technology-based Innovation, Thailand (Online) **Oct 2021**

- Virtual poster and oral presentation: "Improved Colorectal Cancer Subtyping with Machine Learning and Bioinformatics Analysis."

AWARDS

Young Rising Stars of Science Award (Gold Prize), The Science Society of Thailand under the Patronage of His Majesty the King **2021**