

DANG TOAN THANG

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PROFESSIONAL SUMMARY

Driven computational chemist and researcher with a multidisciplinary foundation in clinical medicine, pharmacology, and pharmaceutical engineering. Founder of the Independent Drug Discovery (IDD) Lab, specializing in translational Computer-Aided Drug Design (CADD) and automated bioinformatics pipelines. Proven track record of executing self-funded, high-impact research (aiming for Q1 publications) and developing novel computational architectures, underscored by a pending USPTO patent.

RESEARCH LEADERSHIP

Independent Drug Discovery (IDD) Lab | Hanoi, Vietnam

Founder & Principal Investigator | 2023 – Present

- **Lab Management:** Established and currently direct a self-sustaining computational research operation without direct faculty funding. Independently trained undergraduate researchers in CADD pipelines, molecular dynamics, and scientific writing.
- **Generative Therapeutics:** Spearheaded a project integrating Structure-Based (SBDD) and Ligand-Based (LBDD) approaches for the *de novo* discovery of novel BACE1 inhibitors for Alzheimer's Disease.
- **Target Deconvolution:** Engineered an automated bioinformatics pipeline utilizing high-throughput reverse docking and Protein-Protein Interaction (PPI) networks to elucidate the mechanisms of action for uncharacterized extracted compounds. Preprint under drafting. ([GitHub Repository](#))

PUBLICATIONS & PATENTS

- **Preprint:** Dang, T. T., et al. "Integrated pipeline in de novo design of BACE1 inhibitors for Alzheimer's Disease." *ChemRxiv* (2025). DOI: 10.26434/chemrxiv-2025-bj970. (*Targeting submission to Journal of Chemical Information and Modeling - Q1*).
- **Provisional Patent (USPTO):** *Filed Feb 2026*. "System and Method for Synchronizing Media Delivery with Asynchronous AI Inference States (The 'Attention-for-Compute' Protocol)."
 - *Description:* Engineered a secure, air-gapped computational architecture utilizing Web

Workers and opaque reference tokens to isolate sensitive generative AI prompt data during asynchronous network operations.

EDUCATION

Hanoi University of Science and Technology (HUST) | *Bachelor of Pharmaceutical Chemistry Engineering* | 2024 – Present

- **GPA:** 3.64/4.00
- **Strategic Focus:** Transitioned to an engineering discipline to acquire rigorous mathematical and computational frameworks necessary for advanced CADD and algorithmic drug discovery.

VinUniversity | *Medical Doctor (MD) Program* | Transferred

- **GPA:** 3.67/4.00 | **Honors:** 100% Merit Scholarship; President's List (2022)
- **Relevance:** Acquired a profound understanding of human physiology, pathology, and clinical needs, informing target selection in computational therapeutics.

Hanoi University of Pharmacy | *Doctor of Pharmacy (PharmD) Program* | Transferred

- **GPA:** 3.47/4.00 | **Honors:** GPA Scholarship Recipient
- **Relevance:** Built a strong foundation in clinical pharmacology, pharmacokinetics, and traditional drug formulation.

HONORS & AWARDS

Academic & Scientific:

- **Top 20% National**, Vietnam Organic Synthesis Challenge (2025)
- **Consolidation Prize**, Vietnam College Student Chemistry Olympiad (2025)
- **Third Prize**, HUST Student Research Competition (2025) – *Awarded for the independent BACE1 inhibitor project, competing against faculty-backed laboratories.*
- **Second Prize**, National Chemistry Olympiad (High School, 2019) – *Selected for the International Olympiad Team Selection Test (TST).*

Innovation & Entrepreneurship:

- **Fourth Prize**, Medical and Pharmaceutical Innovation Competition (2022)
- **First Prize**, VinUniversity Hackathon (2021) – *Led a team to design a commercially viable circular economy model transforming F&B waste oil into functional hygiene products.*
- **Second Prize**, VinUniversity Persuasive Presentation Competition (2022)

APPLIED SCIENCE & INDUSTRY EXPERIENCE

Bo Hon Vietnam Joint Stock Company | Hanoi, Vietnam

Cosmetic Formulator (R&D) | 08/2023 – 02/2024

- Bridged chemical property analysis with consumer market demands to formulate and optimize new organic cosmetic lines for mass-market stability and cost-efficiency.

Hiep Thanh Herbal & Pharmaceutical JSC | Hanoi, Vietnam

R&D Specialist | 08/2022 – 08/2023

- Modernized traditional herbal extraction methodologies for scaled industrial application.

TECHNICAL SKILLS & PROFICIENCIES

- **Computational Science:** Computer-Aided Drug Design (CADD), Molecular Docking, Molecular Dynamics, High-Throughput Virtual Screening, Bioinformatics Pipelines, AI/ML Inference Architectures.
- **Chemistry & Pharmacy:** Organic Synthesis, Target Deconvolution, Formulation, Pharmacological Analysis.
- **Professional:** Research Project Management, Scientific Mentorship, Cross-Disciplinary Strategy, Public Speaking & Pitching.
- **Languages:** Vietnamese (Native), English (Advanced - IELTS 8.0, C1/C2 Academic Proficiency).