

Dhirath (Kaka) Thanglerdsumpun

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EDUCATION

- Columbia University, School of Engineering and Applied Science, S'26 Dean's List** May 2028
- Bachelor of Science in Electrical Engineering
 - Relevant Coursework: Computer Systems, Signals & Systems, Data Structures, Solid State Devices, Electronic Circuits
 - Activities: Formula Racing High Voltage Electronics Lead, IEEE @ Columbia, Amateur Radio Club, Thai Club Treasurer
- Ruamrudee International School Bangkok, Valedictorian (1/118), 4.21/4.00 GPA** Jun 2025
- SAT Scores: Math 800/800 | ERBW 760/800; 5/5 on 14 Advanced Placement Exams
 - Activities: National Honor Society VP, Student Council Facilities Chair, Varsity Rugby, Varsity Swimming, Jazz Band Trumpeter

TECHNICAL SKILLS

Python, Java, JavaScript, TypeScript, C, MATLAB, Dart, SQL, Arduino, Git — HTML, CSS, Flutter, React, Altium, LTspice, Excel

PROFESSIONAL EXPERIENCE

- Crown & Dagger, Quantitative Analyst (\$100K AUM Student-Run Multi-Strategy Fund at Columbia)** Oct 2026 - Present
- Researching time-series momentum signals in Python across equity, Treasury, gold, and USD ETFs, comparing 63/126/252-day lookbacks on signal stability, switching frequency, and out-of-sample robustness
 - Selected after pitching a long Henry Hub / short Dutch TTF gas spread; screened 40+ cross-asset pairs and tested 9 years of weekly data for stationarity (ADF), mean-reversion half-life, and out-of-sample hit rate (~70%)
- Agoda (Booking Holdings, NASDAQ: BKNG), Full Stack Software Engineer Intern** May 2026 - Jul 2026
- Migrated 400+ React/TypeScript components across 24 pages from Kite-JS to Drone-JS on Agoda's post-booking team, consolidating design patterns across the customer-facing booking-management flow and reducing repository size by 3,000+ files
 - Validated migrated components under production traffic via A/B experiments, gating rollout on performance metrics
- Oliver Wyman, Winter Consulting Analyst** Dec 2025 - Jan 2026
- Projected Thailand's capital markets workforce growing from 10K to 50–60K by 2045 by benchmarking Singapore's and Ireland's hub transitions; mapped AI automation exposure across 11 banking functions
 - Built a phased 2025–2050 roadmap of AI-curriculum, finance × computer science, and English-proficiency reforms targeting 25K AI-ready finance grads/year by 2030 for the Ministry of Education, Thai Capital Market Development Fund, and Bank of Thailand
- ZTRUS, Summer AI Research Intern** Jun 2023 - Aug 2023
- Researched, trained, and evaluated OCR, NLP, and deep learning models for automated document processing, reducing invoice and receipt handling labor by up to 50% for clients such as Siam Piwat, SCG, Murata, and ThaiBev

RESEARCH EXPERIENCE

- Columbia University, Undergraduate Researcher, Wireless & Mobile Networking Lab** Jan 2026 - Present
- Investigating joint sensing and communication for 6G networks with Nokia Bell Labs under Prof. Gil Zussman; analyzed 8+ hours of 140 GHz rooftop channel-sounding data across 61 measurement runs at 10 urban sites in Manhattan
 - Contributed 4 Python tools to the lab's repository for recursive dataset discovery, CDF/summary statistics, and automated heatmap grouping, consolidating a 5-campaign measurement archive into per-site reviewable figures
 - Characterized per-site valid azimuth ranges and scripted automated detection of anomalous rotations and RF-throttled runs; integrated filters into MATLAB analysis pipelines, reducing model error by 62% (3.7 → 1.4 dB RMSE)
- King Mongkut's Institute of Technology Ladkrabang, National Research Scholar, First Author** Apr 2022 - Jul 2025
- Developed the Rumbometer, a low-cost vehicle speed sensor using ground vibrations from transverse rumble strips, achieving ±1 km/h accuracy at 5% the cost of radar; piloted on 7 Bangkok streets
 - [Published](#) in the 50th Annual Conference of the IEEE Industrial Electronics Society (IECON 2024) and IFSA's 9th [SEIA](#)
 - Bangkok Governor's Innovation Award; Best Young Inventor & Gold Medal, 9th Int'l Invention Innovation Competition in Canada
- Kasetsart University, National Research Scholar, First Author** May 2024 - Jun 2025
- Developed a Prognostic Health & Usage Monitoring System for truck fleets, using K-means clustering and fuzzy logic to evaluate driver behavior & predict component failures; Best Paper Runner-Up, 14th TSME Int'l Conference on Mechanical Engineering

COMPETITIONS

- 2026 HRT Algo Arena x Columbia, Third Place
- 2022 Uber Global Hackathon, Team Captain, Regional Champion (Asia), Global Finalist (Top 30 out of 732 teams)
- 2023 MIT iQuHACK Quantum Computing Hackathon, Top 5 out of 60 teams, Microsoft Remote Challenge
- 2023 SAP ASEAN Data Science Explorers, National Finalist (Top 10 out of 107 teams)
- 2023 International Genetically Engineered Machine Competition, Dry Lab & Wiki Leader, Silver Medalist

LEADERSHIP & VOLUNTEER EXPERIENCE

- Safe Stripes Society, Founder and Director** Aug 2023 - Aug 2025
- Founded Thailand's first youth-led road safety initiative; deployed low-cost interventions including the Rumbometer with the Bangkok government, ran road safety education at local schools, and campaigned successfully for stricter speed limits
- GoBabyGo Thailand, Country Director** Aug 2021 - May 2025
- Led the Thailand chapter of an international nonprofit adapting electric ride-on cars for children with mobility impairments; engineered custom controls and safety features for each child's range of motion, launching at 7 schools and reaching 80+ children