CHANG Yung-Hsuan

Updated on June 19, 2026

Email: eiken59@icloud.com LinkedIn My Website *Latest version of my CV*

Education

Georgia State University Atlanta, GA, USA
Master of Actuarial Science August 2027[†] – December 2028 *(Expected)*

National Yang Ming Chiao Tung University Hsinchu City, Taiwan
Bachelor of Science in Applied Mathematics August 2022 – June 2026

École polytechnique Palaiseau, France
International Exchange Program September 2024 – June 2025

Skills

Programming Python, C++, and R; LaTeX and typst.
Languages Mandarin, English (CEFR C1), Japanese (JLPT N2), and French (conversational).
Actuarial Pathway SOA Exam P (July 2025), FM (December 2025), VEE Mathematical Statistics, and VEE Accounting & Finance.

Coursework

Survival Analysis[‡], Time Series[‡], Machine Learning[‡], Probability Theory, Advanced Statistics, Econometrics, and Futures & Options.

Projects

Motor Insurance Pure Premium Pricing: Bridging Machine Learning and Actuarial Compliance using Tree-GLM Hybrids March 2025 – Present
Independent Research Project *Submitted to NAAJ and under review*

- Developed a three-stage pipeline of rule extraction, binning, and penalized GLM to evaluate pure premiums using the `freMTPL2` dataset.
- Verified that the additive structure of Tree-GLM imposes no statistically detectable risk-ranking penalty relative to LightGBM while preserving inspectability.
- Showcased that Tree-GLM's risk-ranking is dominated by behavioral (`BonusMalus`) rather than demographic covariates (`Region`).

Study of Hitting Time and Probability for Random Walks in One and Two Dimensions[§] July 2025 – February 2026
Research Project, College Student Research Scholarship, National Science and Technology Council

- Derived hitting time distributions and expectations for one-dimensional and two-dimensional simple random walks.
- Established an N^2 scaling for expected hitting times in bounded domains and identified the discrete probability coefficients with the centroidal value of the Prandtl stress function from the torsion problem, providing a cross-disciplinary analytical framework for evaluating boundary behaviors in random walks.

The Gambler's Ruin Problem for One-Dimensional Random Walks: Simple Symmetric Random Walk and Some Extensions[§] September 2025 – December 2025
Semester Project, Individual Directed Study (I), National Yang Ming Chiao Tung University

- Derived the x/r hitting probability for the simple symmetric walk via the optional sampling theorem and a second-order recurrence.
- Extended the analysis to spread-out (bounded-step) and finite-variance walks, handling boundary overshoot to establish the $\asymp (x+1)/r$ scaling for the ruin probability.

[†]Deferred due to mandatory military service.
[‡]Graduate-level course taken as an undergraduate.
[§]Supervised by Prof. Yuki CHINO.

Credit Card Default Prediction Using Machine Learning February 2025 – June 2025

Independent Re-analysis of a Final Group Project, Machine Learning, École polytechnique

- Engineered an imbalance-aware pipeline in Python (`scikit-learn`) on a 30,000-client dataset (about 22% default), tuning five classifiers for default-class F1 by cross-validation under class weighting.
- Used 2000-sample bootstrap confidence intervals to show that a transparent logistic regression is statistically indistinguishable from random-forest and XGBoost ensembles, with minority-class recall (not headline accuracy) as the binding constraint.

Work Experience

Teaching Assistant September 2025 – June 2026 & September 2023 – June 2024

Department of Applied Mathematics, National Yang Ming Chiao Tung University

AY 2025 Probability Theory and Calculus A (II) under Prof. FANG Xiang.

AY 2023 Calculus A (I) and Calculus A (II) under Prof. Yuki CHINO.

Private Tutor March 2026 – June 2026, September 2024 – June 2025, & April 2023 – June 2023

Tutored high school and university students in mathematics, linear algebra, probability, and statistics with customized handouts.

Academic Tutor October 2023 – November 2023 & April 2024 – May 2024

Center of Teaching and Learning Development, National Yang Ming Chiao Tung University

Tutored overseas students in Calculus A and conducted weekly sessions with customized handouts.

Honors

Mathematics Presidential Award March 2026, September 2023, & February 2023

Department of Applied Mathematics, National Yang Ming Chiao Tung University

For my academic performance in applied mathematics in my undergraduate study.

College Student Research Scholarship July 2025 – February 2026

National Science and Technology Council

For the project "Study of Hitting Time and Probability for Random Walks in One and Two Dimensions" under research grant 114-2813-C-A49-139-M.

PTSGI.com 23rd Translation Scholarship January 2026

PTSGI.com (Presidential Translation Service Group International)

Selected as one of the 30 recipients in the translation competition for Japanese-to-English translation.

College of Science Dean Award October 2025

College of Science, National Yang Ming Chiao Tung University

For ranking in the top 10% of the department in my first three years of undergraduate study.

Outstanding Student Overseas Exchange Scholarship June 2024

National Yang Ming Chiao Tung University & the Ministry of Education

For my exchange program at École polytechnique in France.

Honor Student May 2023

National Yang Ming Chiao Tung University

For ranking in the top 5% of the department in my first semester of undergraduate study.