Xiyue Han

xiyue.han@uwaterloo.ca
M3 4134, 200 University Ave W, Waterloo, Ontario, N2L 3G1

Education

2019 – **Doctor of Philosophy in Actuarial Science,** University of Waterloo
Supervisor: Prof. Alexander Schied

2017 – 2018 **Master of Mathematics in Actuarial Science,** University of Waterloo
Supervisor: Prof. Alexander Schied
Thesis: *On the Extrema of Functions in the Takagi Class*

2013 – 2017 **Bachelor of Science in Actuarial Science,** The University of Hong Kong

Publications

1. **Han**, **X.**, & Schied, A. (2022a). A robust Faber–Schauder approximation based on discrete observations of an antiderivative. *arXiv preprint arXiv:2211.11907*.
2. **Han**, **X.**, & Schied, A. (2022b). Step roots of Littlewood polynomials and the extrema of functions in the Takagi class. *Mathematical Proceedings of the Cambridge Philosophical Society*, *173*, 591–618.
3. **Han**, **X.**, Schied, A., & Zhang, Z. (2022). A limit theorem for Bernoulli convolutions and the Φ-variation of functions in the Takagi class. *To appear Journal of Theoretical Probability*, 26 pages.
4. **Han**, **X.** (2021). A Gladyshev theorem for trifractional Brownian motion and n-th order fractional Brownian motion. *Electronic Communications in Probability*, *26*, 1–12.
5. **Han**, **X.**, & Schied, A. (2021). The Hurst roughness exponent and its model-free estimation. *arXiv preprint arXiv: 2111.10301*.
6. **Han**, **X.**, Schied, A., & Zhang, Z. (2020). A probabilistic approach to the Φ-variation of classical fractal functions with critical roughness. *Statistics & Probability Letters*, 108920.

Awards

2022 – 2023 **James C. Hickman Scholar**, Society of Actuaries

2018 – 2022 **Statistics and Actuarial Science Chair Award**, University of Waterloo

2019 **Presentation Award in Waterloo Student Conference in Statistics, Actuarial Science and Finance**, University of Waterloo

Professional Certification

Society of Actuaries — Exam P, FM, LTAM, STAM, IFM, SRM and VEE exams

Presentations

October 2022	**The Hurst roughness estimator and its model-free estimation**, The 3rd Waterloo Student Conference in Statistics, Actuarial Science and Finance, University of Waterloo, Waterloo, Canada
June 2022	**The Hurst roughness estimator and its model-free estimation**, The 11th World Congress of the Bachelier Finance Society, Online.
August 2021	**The Hurst roughness estimator and its model-free estimation**, The 56th Actuarial Research Conference, Online.
July 2021	**The Hurst roughness estimator and its model-free estimation**, The 24th International Congress on Insurance: Mathematics and Economics, Online.
April 2021	**The Hurst roughness estimator and its model-free estimation**, Waterloo Student Seminar, University of Waterloo, Waterloo, Canada.
October 2020	**Extrema of functions in the Takagi class**, The 1st Waterloo Student Conference in Statistics, Actuarial Science and Finance, University of Waterloo, Waterloo, Canada

Teaching Experience

Teaching Assistant at the University of Waterloo

2022W	**STAT 901** Theory of Probability 1, Instructor: Prof. Yi Shen
2022S	**ACTSC 363** Casualty and Health Insurance Mathematics 1, Instructor: Prof. Bin Li
2021W	**ACTSC 846** Mathematics of Financial Markets, Instructor: Prof. Ruodu Wang
2021S	**ACTSC 832** Loss Model 2, Instructor: Prof. Bin Li
2020F	**STAT 330** Mathematical Statistics, Instructor: Prof. Peijun Sang **ACTSC 846** Mathematics of Financial Markets, Instructor: Prof. Bin Li
2020S	**ACTSC 832** Loss Model 2, Instructor: Prof. Bin Li **ACTSC 831** Loss Model 1, Instructor: Prof. Bin Li
2020W	**STAT 211** Introductory Statistics and Sampling for Accounting, Instructor: Ms. Dina Dawoud **MTHEL 131** Introduction to Actuarial Practice, Instructor: Mr. Dave Kohler
2019F	**STAT 334** Probability Models for Business and Accounting, Instructor: Ms. Dina Dawoud **MTHEL 131** Introduction to Actuarial Practice, Instructor: Mr. Dave Kohler
2019S	**STAT 333** Applied Probability, Instructor: Prof. Pengfei Li **STAT 330** Mathematical Statistics, Instructor: Prof. Yi Shen
2018W	**STAT 211** Introductory Statistics and Sampling for Accounting, Instructor: Ms. Dina Dawoud **ACTSC 231** Introductory Financial Mathematics, Instructor: Mr. Keith Freeland
2017F	**STAT 202** Introductory Statistics for Scientists, Instructor: Ms. Dina Dawoud **ACTSC 221** Introductory Financial Mathematics (Non-Specialist Level), Instructor: Mr. Brent Matheson