

PERSONAL

Date of Birth: December 9, 1989
Tel: 010-6363-0369
E-mail: ymh1989@korea.ac.kr, yoomh1989@gmail.com
Portfolio: <https://github.com/ymh1989/>

ADDRESS

Department of Financial Engineering, Korea University.
Anam-dong 5-ga, Seongbuk-gu, Seoul, Korea 136-701

EXPERIENCE

- Researcher, Garam Analytics (2014.12-present)
- Researcher, Research project for Industrial mathematics
supported by the National Institute of Mathematics Sciences(NIMS) (2015.07-present)
- Research assistant, R&E Program for Seoul Science High School (2016.03-present)
Department of Mathematics
Supervisor : Professor Junseok Kim
- Researcher, Industry-academic project (2015.08-2015.09)
Verification of OTC derivatives pricing modules
Department of Mathematics
Supervisor : Professor Junseok Kim
- Research assistant, R&E Program for Seoul Science High School (2015.03-2015.12)
Major in Mathematics Education, Hankuk University of Foreign Studies
Supervisor : Professor Young Rock Kim

EDUCATION

- M.S., Financial Engineering, Korea University, Korea, 2015-present
◦ Advisor: Junseok Kim
- B.S., Computer and Information Science, Korea University Sejong campus, Korea, 2008-2015
- B.S., Financial Derivatives and Engineering, Korea University Sejong campus, Korea, 2008-2015
◦ GPA: 4.06 / 4.5

INTERESTS

- Pricing and hedging derivatives using numerical method
- Partial differential equations
- Adaptive mesh for finite difference method
- Numerical method for american options
- Monte Carlo simulation with variance reduction
- Multi-dimensional problem in financial model (Stochastic volatility, Jump-diffusion, etc)
- Local volatility
- Program optimization
- High performance computing
◦ CUDA

RELEVANT SKILLS

- Programming Languages: C, C++, CUDA C, C#, Python, MATLAB
- Operating System: Windows, Linux, Mac

RESEARCH PUBLICATIONS

1. Choi, Y., Jeong, D., Kim, J., Kim, Y. R., Lee, S., Seo, S., & Yoo, M.
Robust and accurate method for the Black-Scholes equations with payoff-consistent extrapolation,
Communications of the Korean Mathematical Society, Vol. 30, No. 3, pp.297–311, 2015.
[PDF](#)
2. Choi, Y., Jeong, D., Lee, S., Yoo, M., & Kim, J.
Motion by mean curvature of curves on surfaces using the Allen–Cahn equation,
International Journal of Engineering Science, Vol. 97, pp. 126–132, 2015.
[PDF](#)
3. Yoo, M., Jeong, D., Seo, S., & Kim, J.
A comparison study of explicit and implicit numerical methods for the equity-linked securities,
The Honam Mathematical Journal, Vol 37, pp. 441–455, 2015.
[PDF](#)
4. Kim, J., Kim, T., Jo, J., Choi, Y., Lee, S., Hwang, H., Yoo, M., & Jeong, D.
A practical finite difference method for the three-dimensional Black-Scholes equation,
European Journal of Operational Research, 2015.
[PDF](#)
5. Jeong, D., Yoo, M., & Kim, J.
Accurate and efficient computations of the Greeks for options near expiry
using the Black-Scholes equations,
Discrete Dynamics in Nature and Society, Accepted, 2016.
[PDF](#)

WORKING PAPERS

1. Jeong, D., Li, Y., Lee, S., Yoo, M., Choi, Y., & Kim, J.
Numerical simulation of the zebra pattern formation.
2. Jeong, D., Yoo, M., & Kim, J.
A hybrid Monte Carlo and finite difference method for option pricing.
2. Jeong, D., Yoo, M., & Kim, J.
Finite difference method for the Black-Scholes equation without boundary conditions.
4. Kim, J., Yoo, M., Son, H., Lee, S., Kim, M., Choi, Y., Jeong, D., & Kim, Y.
Path Averaged Option Value Criteria for Selecting Better Options.

BOOK

1. 정다래, 김영록, 황형석, 유민현, 김준석
파생상품 프로그래밍,
경문사, 2015.
[Google Books](#)