name: Youngsuk LEE ***e-mail***: lee.youngsuk@gmail.com ***mobile***: +44 7825 703909

Profile: Strong quantitative analysis and programming skills; Pragmatic problem-solving mind; Delivers; Team leader and collaborations; Effective stakeholder engagement; Client consulting; Customer services;

Academics, Eduction and Learning:

- Post-Doctoral Fellow (2004-2006): Applied Mathematics, Simon Fraser University, Canada research in fluid dynamics models and teaching undergraduate to 1st-year graduate courses
- PhD (2003): Applied Mathematics with minor in Computer Science
  University of Wisconsin, Madison, US
- BS (1996): Mathematics, Korea Advanced Institute of Science & Technology, South Korea
- Publications: 3 papers in Journal of Fluid Mechanics (best in the field) and 1 in Physica D
- Nanodegree in Natural Language Processing (2021), Udacity

Skill and Experience:

- **Scientific Methods**: statistical analysis and learning such as time-series modelling, regression (ols, robust), parameter estimation, hypothetical testing; linear algebra; optimization; curve fitting; differential equations (ordinary, partial and stochastic) and their numerical methods (finite differences, spectral, Monte Carlo); risk simulations; visualization
- **Programming/Software**:
  - Python: proficient; used numpy/numba, pandas, statsmodels, . . .
  - C#: proficient, implemented algorithms
  - MATLAB (used for research and teaching) & C/C++ (for these, implemented Navier-Stokes equations): used actively in past
  - exposures to SQL (through work), Winform (built adhoc tools at work), TensorFlow (course work); Mongo DB (hobby),
  - software: LaTeX (proficient), Linux (at home), git, Word/Excel/Powerpoint,
- **Technical Writing & Presentations**: model documents, business/functional/technical specifications, test reports, policies, procedures, speaking at conferences, train courses (internally and externally), pre-sales.
- **Language**: English & Korean

Work History:

Quantitative Developer, QuIC (now, part of S&P), May 2008 - Nov 2010

- Software developer, Vancouver, Canada, until May 2008: Lead implementation of IR/FX pricing model libraries into their commercial risk engine using their proprietary language (similar to numpy and Matlab)
- Senior financial engineer and business analyst, London, UK, until Nov 2010: Designed and specified the vendor's solutions for clients' risk systems (including investment banks, financial institutes, insurance firms)

Contractor, Royal Bank of Scotland (now NatWest), London, UK, Nov 2010-Dec 2012

- Worked as the deputy of the modelling team, delivering a suite of brand-new counterparty credit risk models; engaged with the regulators for IMM waiver
- Developed risk factor simulation models (notably, rates and inflation rates/indices) and pricing functionalities, and implemented into the R&D platform (in C#) for testing, including backtesting.

Quantitative Analyst, NatWest, London, UK, Jan 2013 -

- Tasked to research, design, prototype/implement (C#, Python), test (initial and on-going), document, and improve risk models for management and capital purposes.
- Lead the team developing market risk and counterparty credit risk models across interest rates, FX and credit spread risks; hired all levels of quantitative analysts to build the team in London and Delhi
- Being fully *hands-on*, developed a number of models *out of scratch* in high-profile projects including value-at-risk (VaR) models for credit spreads of corporates and sovereigns, risk-free-rates; initial margin models through engaging with industry members; credit rating simulation models; time series outlier detection and filling methods with an adhoc GUI tool;automatised quantification processes;
- Engaged with stakeholders front-to-back including FO, model validators, risk managers, IT, audit and regulators; organizing internal working groups and committee meetings