Junyung KIM

Email : junyung.david.kim@gmail.com
Mobile : +1-929-218-8020
LinkedIn : in/junyung-david-kim

Education

- **Rensselaer Polytechnic Institute (RPI)** — Troy, NY
  Ph.D. candidate of Nuclear Engineering and Science; GPA: 3.84 — *Aug. 2017 – Current*
- **Yonsei University** — Seoul, Korea
  Bachelor of arts in Economics (Major: Applied statistics); GPA: 3.40 (9.0/10.0) — *Mar. 2004 – Feb. 2012*

Experience

- **Korea Advanced Institute of Science and Technology (KAIST)** — Daejeon, Korea
  Researcher — *Feb. 2017 - May. 2017*
  - **Dynamic PRA**: Best estimate thermal hydraulic analysis of APR1400 accident scenarios for regulatory use.
  - **Risk assessment of spent fuel**: Risk assessment of spent fuel transportation/storage and degradation characteristics analysis for on-site wet storage.
- **Korea Nuclear International Cooperation Foundation (KONICOF)** — Daejeon, Korea
  Senior Researcher — *Oct. 2013 - Aug. 2016*
  - **Nuclear Education & Governance**: Participated in drafting road map and action items of national nuclear human resource development planning in 5th Comprehensive Nuclear Energy Promotion Plan (CNEPP); Researched difference of national nuclear HRD policy between Korea and Japan; Led several nuclear regulatory governance and nonproliferation projects
  - **International Cooperation**: Participated in drafting international agreement of regional nuclear cooperation (RCA); Designed and managed new IAEA Technical Cooperation (TC) project (RAS 0068); Managed several IAEA TC Projects (radiation technology)
- **Quantum & Partners** — Seoul, Korea
  Business Analyst — *Dec. 2012 - Jul. 2013*
  - **Data-driven Customer Relationship Management (CRM)**: Created data-driven CRM model combined with retail agency networks for major Fast Moving Consumer Goods (FMCG) company in Korea
- **Reebonz Korea (formerly Club Venit)** — Seoul, Korea
  Analyst — *Mar. 2012 - Oct. 2012*
  - **Corporate Finance Modeling**: Responsible for developing startup financial modeling by looking at revenue growth drivers and implied financial ratios; Conducted research on competitive landscape of the luxury goods industry
- **US Army (A Co., 524th MI BN, 501st MI Bde)** — Seoul, Korea
  Sergeant, KATUSA (Korea Augumentation Troops to US Army) — *May. 2009 - Mar. 2011*
  - **Interpreter**: Interpreted for US and ROKA officers at the field operation; Key resolve, UFG, Northern Vigilance.

Research Interests

- **Safety of complex systems under stationary and dynamic operation**: Dynamic probabilistic risk assessment, thermal-hydraulic modeling and simulation
- **Soft computing techniques**: Artificial neural network, Bayesian network, Marcov network
- **Functional Modeling**: Multilevel flow modeling (MFM)

Programming Skills

- **Languages**: R, Python **System Code**: RELAP-5, RAVEN, SHAPIRE, MOSAIQUE, AIMS-PSA

Certifications

- CFA level 1 passed (Jul. 2010)
- CASL (The Consortium for Advanced Simulation of LWRs) Education Certification (Aug. 2018)

Publications

- **Books**:
  - Junyung Kim, Minwon Seo, Mincheol Park, Young-june Kim, Inchul Moon, "Nuclear Education and Training Programme in Korea." Korea Nuclear International Cooperation Foundation. 2016).
- **Journal Papers**:
  - Junyung Kim, Asad Ullah Amin SHAH, Hyun Gook KANG. "Dynamic Risk Assessment with Bayesian Network and clustering analysis." Reliability Engineering & System Safety (In-Press).
- **Conference Papers (Full Papers)**:
  - Junyung Kim, Hyun Gook KANG. "Pattern Identification of Dynamic Event Tree Scenarios with Clustering." Probabilistic Safety Assessment and Management (PSAM 14), Los Angeles, CA, September, 2018.
  - Jeon, In Seop, Junyung Kim, Robby Christian, Hyun Gook KANG. "Mitigation coverage evaluation of passive systems based on causality estimation using Multi-level Flow Model." Probabilistic Safety Assessment and Management (PSAM 14), Los Angeles, CA, September, 2018.
  - Junyung Kim, Mincheol Park, Youngjune Kim, Incheol Moon. "Comparative Study of National Nuclear HRD Policy between Korea and Japan." Spring Meeting of the Korea Nuclear Society (KNS 2016), Jeju, Korea, May, 2016.
- **Conference Papers (Summaries or Abstracts)**:
  - Junyung Kim. "Introduction to Nuclear HRD in the Republic of Korea." 2016 International Youth Nuclear Conference (IYNC), Hangzhou, China, July, 2016.

Research Projects Participation

- **On-going Projects**:
  - Coping time and cost analysis of accident tolerant plant design based on dynamic PRA methodology, Department of Energy, 2018.10.1∼2021.09.30 (800,000 USD)
  - Design of risk informed autonomous operation for advanced reactor, Department of Energy, 2019.10.1∼2022.09.30 (1,000,000 USD)
- **Completed Projects**:
  - Best estimate thermal hydraulic analysis of APR1400 accident scenarios for regulatory use, National Research Fund, 2017.2.1∼2017.5.12 (100,000,000 KRW)
  - Risk assessment of spent fuel transportation/storage and degradation characteristics analysis for on-site wet storage, National Research Fund, 2017.2.1∼2017.5.12 (100,000,000 KRW)
  - The establishment of efficient support system that cultivates highly qualified professionals in nuclear energy, National Research Fund, 2015.9.15∼2016.8.31 (580,000,000 KRW)
  - Enhancing the comprehensive management system of national capacity building for nuclear manpower, National Research Fund, 2015.9.15∼2016.8.31 (350,000,000 KRW)
  - Development of Radiation Detection System for Imported Cargos, Korea Institute of Nuclear Safety, 2015.6.15∼2015.12.14 (100,000,000 KRW)
  - The enhancement of the integrated management system for public acceptance of nuclear energy, National Research Fund, 2015. 7.1∼2015.11.30 (350,000,000 KRW)
  - Implementing Global Internship Program for Next Generation of Nuclear Professional Manpower, National Research Fund, 2015. 7.1∼2015.11.30 (200,000,000 KRW))
  - Management of the Efficient Support System for Capacity Building of Human Resources in Nuclear Energy, National Research Fund, 2015. 7.1∼2015.11.30 (350,000,000 KRW)
  - A study on establishing advanced nuclear international cooperation system, National Research Fund, 2013. 10.20∼2015.6.30 (2,300,000,000 KRW)

Awads and honors

- **2016**: Best Employee Award, Korea Nuclear International Cooperation Foundation
- **2011**: Army Achievement Medal, U.S. Army
- **2004**: Recipient of academic excellence scholarship: 2 semesters