

JONGJIN (JJ) KIM

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PROFESSIONAL DATA SCIENTIST

Ph.D. Candidate with over 5 years of research experience, specializing in statistics and data science. Expertise includes uncertainty quantification through Bayesian inference, modeling and simulation analysis in pharmaceutical applications, multiple time series analysis of political events, and theoretical analysis of bioimaging PET frameworks. Skilled in R, Python, SAS, and MATLAB, with one year of university-level teaching experience, delivering lectures on complex topics in the field.

QUALIFICATIONS

WORK AUTHORIZATION

- EAD holder under OPT (Optional Practical Training)
- Authorized to work in the U.S. for 1 year without sponsorship
- Eligible for a 2-year OPT extension
- Green Card expected to be completed in 3 years

EDUCATION

Ph.D. in Big Data Analytics

University of Central Florida, Orlando, FL, 2025 (Expected)

M.S. in Statistics & Data Science

University of Central Florida, Orlando, FL, 2022

M.S. in Mathematics Education

Seoul National University, Seoul, Korea, 2016

B.S. in Mathematical Sciences

Korea Advanced Institute of Science and Technology, Daejeon, Korea, 2008

WRITING

Master Thesis: "An EEG test environment design for measuring and analyzing brain on mental rotation task"

Journal Submission: "A model-informed clinical trial simulation tool with a graphical user interface for Duchenne muscular dystrophy" (Submitted)

Ph.D. Dissertation: "Multi-Layer Polynomial Chaos Expansion for Uncertainty Quantification" (in progress)

LANGUAGES

Korean: Native

English: Fluent

ACHIEVEMENTS

Winner | NSF Data Science Competition of Algorithms for Threat Detection, September 2022

[US National Science Foundation and Pennsylvania State University](#)

Most Accurate Ranking of Event Code Predictability using Kendall Tau

Runner-up | [OUC Meter Data Science Competition](#), February 2021

Most Accurate Prediction of Disaggregation of Customer Usage of Electric Vehicles

Award: \$1,500

Winner | KAIST Excellent Research Award on Undergraduate Dissertation, December 2007

Awarded by Korea Advanced Institute of Science and Technology

Title: Stochastic Modeling of the KAIST Web Board.

Third Place | Nationwide Math Olympiad for Undergraduates, November 2006

Awarded by [Korean Mathematical Society](#)

Awardee | The President Scholarship, Korea, 2004 - 2007

Awarded by [Korea Science and Engineering Foundation](#)

National award – ₩40,000,000 (~US\$30,000)

RELATED PROFESSIONAL EXPERIENCES

Data Scientist | University of Florida, Orlando, FL

Department of Pharmaceutics, College of Pharmacy, October 2023 - May 2024

Project: Developed a web-based, user-friendly graphical user interface (GUI) for Duchenne muscular dystrophy (DMD) disease progression models.

Key Learnings:

This project reinforced my proficiency in developing graphical user interfaces and clinical simulation tools using R, R Shiny, Monolix, and SimulX. I enhanced my understanding of non-linear disease progression modeling and learned how to efficiently generate simulations and visualize results. Additionally, I gained experience in academic manuscript writing throughout the project.

Research Assistant | University of Central Florida, Orlando, FL

Department of Statistics and Data Science

Project 1: Simulate Uncertainty Quantification in Digital Twins (May 2023 - August 2023)

Key Learnings:

This experience deepened my understanding of Bayesian inference and how to formulate the system mathematically. I also ran a polynomial chaos expansion model in R, which provided valuable insights into the uncertainty quantification of digital twin systems. I gained hands-on experience in developing robust simulations and interpreting the resulting uncertainty measures.

Project 2: Algorithms for Threat Detection 2022 Competition (May 2022 - August 2022)

Key Learnings:

I worked on forecasting multiple time series of weekly political events. I conducted exploratory data analysis and identified key features for clustering. Additionally, I developed a Poisson Regression model in Python to analyze temporal and spatial events, further enhancing my skills in statistical modeling. Throughout the project, I also gained valuable experience collaborating with another graduate student and a professor.

Project 3: Time-of-Flight PET Image Reconstruction (May 2022 - August 2022)

Key Learnings:

The project significantly improved my understanding of medical imaging processes of Time-of-Flight PET. I conducted Monte Carlo simulations to compute the Cramer-Rao Lower Bound of the estimator, which enhanced my ability to assess parameter estimation accuracy. Through this project, I further developed my proficiency in Python and advanced statistical methods for image analysis.

Data Science Consultant | Hong Kong University of Science and Technology, Hong Kong

Department of Management of Information Systems, Business School
(October 2017 – March 2018)

Project: Network Analysis of Blockchain Transaction and Internet Forum

Key Learnings:

Through this project, I gained valuable experience in web-crawling techniques to collect extensive blockchain transaction data in Python. Developing an algorithm to create a graph of blockchain network connections provided me with a deeper understanding of network theory.

OTHER PROFESSIONAL EXPERIENCES

Graduate Teaching Associate | University of Central Florida, Orlando, FL

Department of Statistics and Data Science, September 2023 - August 2024

Course: Principles of Statistics

- Summer 2024 (SPI: 4.85 / 5.00)
- Spring 2024 (SPI: 4.14 / 5.00)
- Fall 2023 (SPI: 4.08 / 5.00)

Key Learnings: As an instructor, I developed strong skills in course planning and curriculum development, particularly for undergraduate-level courses. Teaching principles of statistics enhanced my ability to explain complex concepts in a clear and accessible manner and practical uses of tools. Additionally, it sharpened my analytical and feedback skills, allowing me to provide constructive support to students and help them improve academically. This role significantly strengthened my classroom management, communication, and mentorship abilities, essential for fostering a positive learning environment.

Graduate Teaching Assistant | University of Central Florida, Orlando, FL

Department of Statistics and Data Science, September 2020 - May 2023

Courses:

- **Statistical Foundations of Data Science and AI II** Spring 2023
- **Statistical Applications of Matrix Algebra** Spring 2023
- **Regression Analysis** Fall 2022
- **Statistical Theory II** Fall 2022
- **Applied Time Series** Spring 2022
- **Advanced Computer Processing of Statistical Data** Fall 2021
- **Statistical Foundations of Data Science and AI I** Fall 2021
- **Principles of Statistics** Spring 2021
- **Loss Models II** Spring 2021
- **Honors Statistics Methods I** Fall 2020
- **Theory of Interest** Fall 2020

Key Learnings: As a grader, I developed strong attention to detail when evaluating student assignments and exams, ensuring fair and consistent assessments. By running office hours punctually, I improved my ability to provide individualized support and address student concerns effectively. This experience enhanced my communication skills, as I learned to clarify complex statistical concepts and provide constructive feedback to help students succeed. Maintaining a regular schedule for office hours also strengthened my time management and responsibility in supporting students outside of class.

Research Assistant | University of Alabama, Tuscaloosa, AL

Educational Psychology, School of Education, August 2018 - May 2020

Key Learnings: As a research assistant, I gained in-depth experience in conducting EEG experiments, particularly in studying individual differences in arithmetic task processing.

Research Assistant | Korea Foundation for the Advancement of Science and Creativity, Seoul, Korea (April 2015 – July 2015)

Project: Mathematics National Curriculum Development,

Key Learnings: I contributed to the national curriculum for Economic Mathematics and Math Explore. I also enhanced my skills in collaborating closely with educators to ensure the curriculum met national standards.

Research Assistant | Seoul National University, Seoul, Korea

College of Education, March 2014 – July 2015

Key Learnings: As a research assistant, I gained experience in innovative pedagogical approaches through researching flipped learning for STEM education. Teaching STEAM classes allowed me to refine my instructional skills, while managing student affairs improved my organizational and administrative abilities. This role also strengthened my collaboration skills as I worked closely with faculty and students to implement effective teaching strategies.

PUBLICATIONS

1. **Kim, J.**, Kang, S., Morales, J. F., Klose, M., Wilcocks, R. J., Daniels, M. J., Belfiore-Oshan, R., Walter, G. A., Rooney, W. D., Vanderborne, K., Kim, S. (2024). A Model-Informed Clinical Trial Simulation Tool with a Graphical User Interface for Duchenne Muscular Dystrophy. *Clinical Pharmacology and Therapeutics: Pharmacometrics & Systems Pharmacology*. (Under review)
2. Anchan, M., **Kim, J.**, & Soyulu, F. (2018, November). Comparing Math Processing in Bilinguals and Monolinguals: Retrieval-based and Calculation-based Arithmetic, Poster presented at the *Psychonomics* 2018, New Orleans, USA.
3. Cho, H. Jeong, J., **Kim, J.**, Seo, Y., & Lee, S. (2016). Math-based Coding Education in Korean School, 2016 Constructionism, Bangkok, Thailand.
https://www.researchgate.net/publication/319213802_Math-based_Coding_Education_in_Korean_School
4. Song, H., **Kim, J.**, Lee, J., & Lee, H. S. (2011). Analysis of vertical handover latency for IEEE 802.21-enabled Proxy Mobile IPv6, 13th International Conference on Advanced Communication Technology (2011 ICACT), Gangwon, Korea, pp. 1059-1063.
<https://ieeexplore.ieee.org/document/5745991>