

# Minjee Kim

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*Sufficient dimension reduction (SDR) for complex data structures, with applications in biomedical statistics*

## REFERENCES

### Jae Keun Yoo (Advisor)

Professor, *Department of Statistics, Ewha Womans University*

[peter.yoo@ewha.ac.kr](mailto:peter.yoo@ewha.ac.kr)

### Kyongwon Kim (Corresponding Author)

Assistant Professor, *Department of Applied Statistics and Department of Statistics and Data Science, Yonsei University*

[kimk@yonsei.ac.kr](mailto:kimk@yonsei.ac.kr)

### Michael Hardisty (Corresponding Author)

Scientist, *Holland Bone and Joint Program, Sunnybrook Research Institute*

Assistant Professor, *Department of Surgery, University of Toronto*

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## EDUCATION

Sep 2022 – Feb 2027 **Ewha Womans University**

- *Ph.D.* in Statistics (Advisor: **Jae Keun Yoo**)  
T.A.: Regression Analysis, Bayesian Statistics, Mathematical Statistics, etc.

Mar 2017 – Aug 2022

- *B.S.* in Architectural and Urban Systems Engineering / Statistics

Jan 2025 – Jun 2025

**University of Toronto**

- *Visiting Student* in Mechanical & Industrial Engineering

## RESEARCH EXPERIENCES

Sep 2022 – Feb 2027 **Ewha Dimension Reduction and Intelligent Learning Lab**

*Graduate Student Researcher*

- Extended SDR methods to functional data, survival regression, non-elliptical settings

Jan 2025 – Jun 2025

**Sunnybrook Health Sciences Centre**

*Visiting Researcher*

- Developed a dynamic mortality prediction model for prostate cancer patients

## PUBLICATIONS

1. **Non-elliptical Dimension Reduction in Survival Regression,**  
Minjee Kim, Minjeong Kim and Jae Keun Yoo, 2026, *Stat*, 15(3), e70162.
2. **Dynamic Mortality Prediction for Prostate Cancer based on Irregularly Sampled Multimodal EHR and Musculoskeletal Image-based Biomarkers,**  
Eunseon Seong, Minjee Kim, Dareen Eom, Gyeonghwa Heo, Urban Emmenegger, Saleh Tabatabaei, Tayler Declan Ross, and Michael Hardisty, 2026, In *Pacific-Asia Conference on Knowledge Discovery and Data Mining* (pp. 399-410).
3. **Nonlinear Functional Sufficient Dimension Reduction via Principal Fitted Components,**  
Minjee Kim, Yujin Park, Kyongwon Kim, and Jae Keun Yoo, 2025, *Statistics and Computing*, 35(4), 95.
4. **Covariance Projective Resampling Informative Predictor Subspace for Multivariate Regression,**  
Minjee Kim & Jae Keun Yoo, 2025, *Journal of the Korean Statistical Society*, 54(3), 920-931.
5. **Applications of response dimension reduction in large p-small n problems,**  
Minjee Kim & Jae Keun Yoo. 2024, *Communications for Statistical Applications and Methods*, 31(2), 191-202.

## IN PREPARATION

1. **Second-Order Covariance Projective Resampling for Sufficient Dimension Reduction with Multivariate Responses**, Minjee Kim & Jae Keun Yoo.

## CONFERENCES

|          |                                                                                             |
|----------|---------------------------------------------------------------------------------------------|
| Jun 2026 | <b>30th PAKDD</b> – “Dynamic Mortality Prediction for Prostate Cancer using Multimodal EHR” |
| Dec 2025 | <b>13th IASC-ARS</b> – “CovPRIIPS for Multivariate Regression”                              |
| Aug 2025 | <b>8th EcoSta</b> – “Nonlinear Functional SDR via Principal Fitted Components”              |
| Dec 2024 | <b>IASC-ARS Interim</b> – “Response dimension reduction in large p-small n problems”        |

## SKILLS

- **R** (primary), **Python / SQL** (Clinical EHR data querying and preprocessing)
- Languages – English (academic), Korean (native)

## HONORS & ACTIVITIES

|                     |                                                             |
|---------------------|-------------------------------------------------------------|
| Jul 2026            | <i>Volunteer</i> of 33rd International Biometric Conference |
| Aug 2025            | Ewha Womans University <i>Best Paper Award</i>              |
| Sep 2021 – Aug 2022 | <i>Member</i> of Ewha Statistics Analysis Association       |