# Modeling student performance under deadlines

**Ji-Eun Kim**
Assistant Professor
Industrial & Systems Engineering
University of Washington

**Abstract:** Deadlines are known to increase productivity by helping individuals to manage time efficiently. Human behavioral patterns in the presence of deadlines have been studied quantitatively to show that relatively little time is devoted to tasks early on and that most of the work is performed in close time proximity to the deadline. This phenomenon, called deadline rush, can be modeled by exponential distributions. Deadline reactivity, represented by a rate parameter of the exponential distribution, parameterizes individual differences in procrastination. That is, an individual with high deadline reactivity procrastinates more than an individual with low deadline reactivity. While researchers have investigated parametric models of deadline reactivity, many unaddressed questions remain regarding the models' practical applications in the classroom setting. The presentation will show factors that affect students' deadline reactivity as well as its relationships with individual and team performance. The presentation will also show better methodologies for quantitatively measuring and estimating students' performance under deadlines. This presentation highlights the importance of considering these individual differences in deadline reactivity by modeling, estimating, and providing policies in the classroom settings based on data collected from field studies, controlled experiments, and sensing technologies.

**Bio:** Ji-Eun Kim is an assistant professor in the Department of Industrial and Systems Engineering at the University of Washington, Seattle. Her research spans the fields of human performance modeling, neuroergonomics, and cognitive engineering, with the primary goal of designing work systems that better accommodate individual differences. The major application domains of her research include healthcare and digital learning. She holds a Ph.D. in Industrial Engineering from the Pennsylvania State University, an M.S. in Cognitive Psychology from Korea University, and a B.S. in Biology from Sogang University.