



Exponent[®]
Engineering & Scientific Consulting

Ropa Denga, Ph.D.

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Professional Profile

Dr. Denga is a cognitive scientist with over five years of experience investigating the mechanisms underlying expert behavior in humans. Her graduate work examined the components of tasks that affect reaction time and attention.

Dr. Denga has extensive expertise in designing and implementing experimental tasks and collecting human subjects' data with diverse populations both in a laboratory setting as well as in naturalistic environments. Additionally, she has experience analyzing both quantitative and qualitative data, as well as process data captured while people interact with digital tasks. Dr. Denga has initiated cross-functional collaborations on various projects and has a solid background communicating with different stakeholders. Since joining Exponent, Dr. Denga has worked on a variety of projects involving human factors aspects of vehicle operator control, warnings and safety information communication, as well as pedestrian behavior.

Academic Credentials & Professional Honors

Ph.D., Cognitive Science, Rensselaer Polytechnic Institute, 2022

M.S., Cognitive Science, Rensselaer Polytechnic Institute, 2020

B.S., Computer Science, Spelman College, 2017

Alpha Kappa Alpha Educational Advancement Foundation Graduate Merit Scholarship, 2021

Cognitive Science Society Diversity and Inclusion Award, 2021

Programs Chair, Black Graduate Students Association at Rensselaer Polytechnic Institute, 2018-2020

Spelman College Ambassador Andrew Young International Scholarship, 2013-2017

Apple HBCU (Historically Black Colleges and Universities) Scholarship, 2015-2016

1st Place award for the most innovative project, 2016

Google Edge Scholar, 2014

Academic Appointments

Graduate Teaching Assistant, Sensation and Perception, Rensselaer Polytechnic Institute, 2021, 2022

Graduate Teaching Assistant, Human Factors in Design, Rensselaer Polytechnic Institute, 2019

Prior Experience

Graduate Researcher and Laboratory Manager, 2017-2022

Research Intern, Educational Testing Service, 2018, 2020

Research Intern, Microsoft Research, 2017

Maps Software Engineering Intern, Apple, 2016

Professional Affiliations

Human Factors and Ergonomics Society 2021 – present

Cognitive Science Society 2019 - 2021

Publications

Davis SJ, Denga R, Shlanta P, Cades DM. Understanding overdriving: Human factors considerations in heavy vehicle headlight visibility and stopping distance. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. 2023 Oct; 67(1):1316-1321. doi:10.1177/21695067231194340

Denga R. Need for speed: Applying ex-Gaussian modeling techniques to examine intra-individual reaction time variability in expert Tetris players. Proceedings of the Annual Meeting of the Cognitive Science Society 2021; 43:2733-2739.

Gray WD, Lindstedt JK, Sibert C, Sangster MDD, Rahman R, Denga R, and Destefano M. The essence of interaction in boundedly complex, dynamic task environments. In Gluck KA & Laird JE (Eds), Interactive Task Learning: Humans, Robots, and Agents Acquiring New Tasks through Natural Interactions, Volume 16: Strungmann Forum Reports 2019.

Presentations

Denga R. Playing Tetris and cognitive abilities. Presentation at the Rensselaer Polytechnic Institute Black Graduate Research Symposium, Troy, NY, 2022.

Denga R. The effects of playing the video game Tetris on cognitive abilities. Presentation at the Rensselaer Polytechnic Institute Cognitive Science Departmental Meeting, Troy, NY, 2021.

Denga R. Effects of formatting in reading blocks: Exploring test-takers response and behavioral patterns. Presentation at the Educational Testing Service Intern Symposium, Princeton, NJ, 2020.

Denga R. Joint action. Presentation in PSYC 4370 Cognitive Psychology at Rensselaer Polytechnic Institute, Troy, NY, 2019.

Denga R. The jigsaw of part-task training in dynamic task environments. Presentation at the Rensselaer Polytechnic Institute Cognitive Science Departmental Meeting, Troy, NY, 2019.

Denga R, Gray WD. The jigsaw of part-task training in dynamic task environments. Poster presented at

the 41st Annual Meeting of the Cognitive Science Society, Montreal, Canada, 2019.

Denga R, Arslan B. Understanding test-takers' strategy use from process data. Poster presented at the annual National Assessment Governing Board Meeting, Washington, DC, 2018.

Denga R. Part-task training in Tetris. Presentation at the Rensselaer Polytechnic Institute Cognitive Science Departmental Meeting, Troy, NY, 2018.

Denga R, Peni R, Ncube G, Sihwa D. Sabertooth: Using technology to reduce violence against autistic individuals. Presentation at the Spelman Pioneer Award in Research Competition, Atlanta, GA, 2016.

Denga R. System dynamics software used to predict optimal conditions for the dissolution and subsequent absorption of vitamins B12 and D3. Poster presented at Spelman College Research Day, Atlanta, GA, 2015.