



Exponent[®]
Engineering & Scientific Consulting

Asaad Shaikh

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Professional Profile

Asaad Shaikh's expertise includes solid mechanics, failure and stress analysis, component testing, and advanced manufacturing. He is experienced in a wide range of mechanical property verification methods, with multiple publications in the field of composite manufacturing and evaluation. Mr. Shaikh's research experience concerns the performance of components across extreme conditions. From evaluating the performance of composites over a wide-range of strain rates, to demonstrating the efficacy of custom polymer blends from the nano- to macro- scale, he is well-versed in generating thorough technical reports on the performance of unique materials.

Prior to joining Exponent, Mr. Shaikh was a member of the Advanced Materials and Structures Laboratories at Rutgers University for five years. As the primary operator of the nanoindentation devices in AMSL, Mr. Shaikh often collaborated with major companies in the defense sector to generate data on the performance of proprietary materials. He has been trained on a wide variety of machines used to evaluate the mechanical, thermal, and morphological properties of a material. Along with his research, Mr. Shaikh was a member of the Rutgers Formula Racing (SAE) team and was awarded by the Mechanical and Aerospace Engineering Department for excellent manufacturing of his senior capstone project, a modular brake dynamometer. He was also a member of the prestigious James J. Slade Scholar Program, which recognizes the top undergraduate researchers at Rutgers University. Following the completion of his Bachelor's degree, Mr. Shaikh continued his graduate studies at Rutgers University as a member of the 5 Year BS-MS Program, and successfully defended his thesis on the "Nanomechanical Analysis of Poly ether ether ketone Based Polymer Matrix Composites" in March 2023.

Academic Credentials & Professional Honors

M.S., Mechanical and Aerospace Engineering, Rutgers University, New Brunswick, 2023

B.S., Mechanical Engineering, Rutgers University, 2022

James J. Slade Scholar, Rutgers University, 2022

Prior Experience

Graduate Researcher, Advanced Materials and Structures Laboratories, Rutgers University, 2021-2023

Research Assistant, Advanced Materials and Structures Laboratories, Rutgers University, 2018-2021

Professional Affiliations

Society of Automotive Engineers

American Society of Mechanical Engineers

American Institute of Aeronautics and Astronautics

Publications

Ren, Z., Green-Warren, R., McAllister, N., Kim, A., Shaikh, A., Pelegri, A. A., Singer, J. P., & Lee, J. (2023). Enhanced mechanical energy absorption via localized viscoplasticity of nano-cellular polymer coating under supersonic impact loading. *Giant*, 15, 100180. <https://doi.org/10.1016/j.giant.2023.100180>

Agarwal, M., Shaikh, A., Ramkumar, S., Pelegri, A., & Lynch-Branzoi, J. (2023a). Morphology and Mechanical Properties of Poly-ether-ether-ketone (PEEK) and Polysulfone (PSU) blends. *SAMPE 2023*, 9. <https://doi.org/10.33599/nasampe/s.23.0204>

Agarwal, M., Shaikh, A., Ramkumar, S., Pelegri, A., & Lynch-Branzoi, J. (2023b). Nanoindent Characterization and DSC Evaluation of Elongated Shear Flow Exfoliated Poly-ether-ether-ketone (PEEK) and Polysulfone (PSU) Blends. *SAMPE 2023*, 9. <https://doi.org/10.33599/nasampe/s.23.0200>

Green-Warren, R. A., Bontoux, L., McAllister, N. M., Kovacevich, D. A., Shaikh, A., Kuznetsova, C., Tenorio, M., Lei, L., Pelegri, A. A., & Singer, J. P. (2022). Determining the self-limiting electrospray deposition compositional limits for mechanically tunable polymer composites. *ACS Applied Polymer Materials*, 4(5), 3511–3519. <https://doi.org/10.1021/acsapm.2c0010>