Stanford



Apurva Mehta

Senior Scientist, LCLS - Linac Coherent Light Source

Bio

BIO

I am a materials scientist with three decades of experience unraveling the molecular-scale processes that govern the functionality, aging, and failure of complex materials and devices. Over this time, advanced characterization methods have undergone a revolutionary transformation, driven by the emergence of brighter sources—from synchrotrons and X-ray free-electron lasers to MeV accelerator-based electron sources—paired with faster and larger-area detectors. While the depth and precision of measurements have vastly improved, the explosion of raw data now poses a significant challenge, making it increasingly difficult to extract meaningful insights them.

Recognizing this growing challenge, I have devoted the last decade to harnessing the power of emerging machine learning and artificial intelligence techniques to find breakthroughs. My focus has been on not only accelerating the extraction of knowledge from intricate, multi-dimensional, and often noisy measurements but also on making data collection smarter. By integrating these cutting-edge technologies, I aim to transform how we approach material science and deepen our understanding of material behavior and device performance.

CURRENT ROLE AT STANFORD

Head of Material Sciences Department

Linac Coherent Light Source

SLAC national accelerator lab

EDUCATION AND CERTIFICATIONS

- Visiting Scientist, Tata Institute of Fundamental Research
- Post-Doctoral Fellowship, Princeton University
- Ph.D., Lehigh University , Materials Science and Engineering (1990)

LINKS

- Publications: Google Scholar Citations: https://scholar.google.com/citations?user=sXrmPAsAAAAJ&hl=en

Publications

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