Satya Lokam is a Principal Researcher at Microsoft Research India. His research interests broadly include mathematical foundations of computation, coding, and learning. Specifically, his work spans areas of computational complexity, error correcting codes, cryptography, privacy, and science of AI/ML. Before joining Microsoft Research, Satya was a faculty member at the University of Michigan, Ann Arbor. He received his Ph.D. from the University of Chicago and held postdoctoral positions at the University of Toronto and at the Institute for Advanced Study, Princeton.

In complexity theory, Satya worked on lower bounds using linear algebraic methods for various models such as communication complexity and Boolean and arithmetic circuits, on locally decodable codes, and on Fourier analysis for combinatorial and complexity-theoretic applications. He won the Best Student Paper (Machtey) Award at the 1995 FOCS (IEEE symposium on Foundations of Computer Science). His monograph *Complexity Lower Bounds using Linear Algebra* has been published as a volume in the series Foundations and Trends in Theoretical Computer Science. Satya served on program committees of several top conferences on theoretical computer science such as STOC, ICALP, FSTTCS and was a PC co-chair for FSTTCS 2017. He is currently an editor of open access journal *Theory of Computing*.

Satya's work in cryptography includes security proofs for digital signatures, attribute-based encryption, cryptography based on tamper-proof hardware, probabilistic verification, zero-knowledge proofs and zkSNARKs, and applications of cryptography to decentralized identities and systems such as blockchains. In privacy, Satya works on differential privacy and privacy preserving protocols in machine learning. Satya served on program and organizing committees of several conferences and workshops on cryptography and privacy including as general chair for Asiacrypt 2013, Indocrypt 2015, and PC co-chair for AsiaCCS 2018 and 2019 workshops on Blockchain, Cryptocurrencies, and Contracts (BCC). He is currently a steering committee member for Asiacrypt.

Most recently, Satya jumped on the AI/ML bandwagon. Here too, Satya is drawn toward foundations. He is currently studying neuroscience-/cognitive science-inspired approaches to (representations, algorithms, world models, etc., in) machine learning and if they might help improve the capabilities and efficiencies of today's machine learning models.