Bhavana Mehta

[in] bmehta5 | ⬡ bhavanamehta5 | 🎓 Bhavana Mehta (Google Scholar)

EDUCATION

University of Pennsylvania
Ph.D., Computer and Information Science   *Sept. 2019 – Present*
Advisor: Dr. Boon Thau Loo

Nirma Institute of Technology, India
B.Tech., Electronics & Communication Engineering   *July 2014 – May 2018*

PUBLICATIONS

Adaptive Sharding in Untrusted Environments
Bhavana Mehta, Nupur Baghel, Mohammad Javad Amiri, Ryan Marcus, Boon Thau Loo
Submitted to SIGMOD '26

Towards Full Stack Adaptivity in Permissioned Blockchains
Chenyuan Wu, Mohammad Javad Amiri, Haoyun Qin, **Bhavana Mehta**, Ryan Marcus, Boon Thau Loo
VLDB '24

Towards Adaptive Fault-Tolerant Sharded Databases
Bhavana Mehta, Neelesh CA, Prashanth Iyer, Mohammad Javad Amiri, Boon Thau Loo, Ryan Marcus
AIDB @ VLDB '23

AdaChain: A Learned Adaptive Blockchain
Chenyuan Wu, **Bhavana Mehta**, Mohammad Javad Amiri, Ryan Marcus, Boon Thau Loo
VLDB '23

WORK EXPERIENCE

University of Pennsylvania
Research Assistant   *Sept 2019 – Present*

- Developed scalable, high-performance distributed databases with Byzantine fault tolerance and dynamic adaptation, improving system reliability.
- Designed machine learning-driven adaptive data management techniques optimizing distributed infrastructure at scale.
- Developed scalable blockchain consensus, fault-tolerant sharding architectures, and their applications in large-scale infrastructure.

Bluespec Inc., Massachusetts
Design Engineer   *Jan 2018 – June 2019*

- Architected and optimized RISC-V cores, focusing on pipelining, hazards, and timing closure.
- Automated generation and deployment of 500+ RISC-V cores from high-level specifications till chip tape-out, reducing time-to-market.

SKILLS

Languages:	Python, C/C++, SQL, Verilog, Bash
Frameworks:	scikit-learn, NumPy, Pandas, PyTorch
Infrastructure:	Distributed Databases, Blockchain, Sharding, Consensus
Hardware Design:	RISC-V, RTL Design, SoC Integration, Docker, Git
Research Areas:	ML for Systems, Byzantine Fault Tolerance, Adaptive Infrastructure