

# Vishwak Srinivasan

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## Research Interests

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Sampling, Optimisation, Differential Privacy, Optimal Transport

## Education

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**Massachusetts Institute of Technology** Cambridge, MA  
Ph.D. in Electrical Engineering and Computer Science 2021 – Present  
Minor in Astronomy (in progress)  
Advisor: Prof. Ashia Wilson  
GPA: 5.00 / 5.00

**Carnegie Mellon University** Pittsburgh, PA  
M.S. in Machine Learning 2019 – 2020  
Advisor: Prof. Pradeep Ravikumar  
GPA: 4.07 / 4.33

**Indian Institute of Technology Hyderabad** Kandi, India  
B.Tech. in Computer Science and Engineering 2015 – 2019  
Advisor: Prof. Vineeth Balasubramanian  
GPA: 9.67 / 10.00 (graduated with Honors, ranked 3<sup>rd</sup> in graduating class)

## Publications

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(\* denotes equal contribution)

### Pre-prints / in submission

- [1] **Srinivasan, V.** “Understanding two-scale criteria for Poincaré and log-Sobolev inequalities in the Euclidean case through  $\Phi$ -entropies”. 2025.  
In preparation.

### Conference Publications

(\* denotes equal contribution)

- [10] Wang, X.\*; **Srinivasan, V.\***; Fu, Q.; Mitra, S.; Wilson, A.; Wibisono, A. “Accelerated Convex Optimization via Hamiltonian Dynamics with Deterministic Integration Time”. To appear in *Proceedings of 39<sup>th</sup> Conference on Learning Theory (COLT 2026)*.
- [9] Lev, O.; Shenfeld, M.; **Srinivasan, V.**; Ligett, K.; Wilson, A. “Near-Optimal Private Linear Regression via Iterative Hessian Mixing”. To appear in *Proceedings of the 43<sup>rd</sup> International Conference on Machine Learning (ICML 2026)* [**Spotlight**].
- [8] **Srinivasan, V.\***; Jiang, Q.\* “Designing Algorithms for Entropic Optimal Transport from an Optimisation Perspective”. To appear in *Proceedings of The 37<sup>th</sup> International Conference on Algorithmic Learning Theory (ALT 2026)*.
- [7] Lev, O.; **Srinivasan, V.\***, **Shenfeld, M.\***, Ligett, K.; Sekhari, A.; Wilson, A. “The Gaussian Mixing Mechanism: Renyi Differential Privacy via Gaussian Sketches”. To appear in *Advances of Neural Information Processing Systems 38 (NeurIPS 2025)*.
- [6] **Srinivasan, V.**; Wibisono, A.; Wilson, A. “High-accuracy sampling from constrained spaces with the Metropolis-adjusted Preconditioned Langevin Algorithm”. In *Proceedings of The 36<sup>th</sup> International Conference on Algorithmic Learning Theory (ALT 2025)*.

- [5] **Srinivasan, V.**; Wibisono, A.; Wilson, A. “Fast sampling from constrained spaces using the Metropolis-adjusted Mirror Langevin algorithm”. In *Proceedings of 37<sup>th</sup> Conference on Learning Theory (COLT 2024)*.
- [4] **Srinivasan, V.**; Khim, J.; Banerjee, A.; Ravikumar, P. “Subseasonal Climate Prediction in the Western US using Bayesian Spatial Models”. In *Proceedings of the 37<sup>th</sup> Conference on Uncertainty in Artificial Intelligence (UAI 2021)*.
- [3] Malik, D.; Pacchiano, A.; **Srinivasan, V.**; Li, Y. “Sample efficient reinforcement learning in continuous state spaces: A perspective beyond linearity”. In *Proceedings of the 38<sup>th</sup> International Conference on Machine Learning (ICML 2021)*.
- [2] Prasad, A.\*; **Srinivasan, V.\***; Balakrishnan, S.; Ravikumar, P. “On Learning Ising Models under Huber’s Contamination Model”. In *Advances of Neural Information Processing Systems 33 (NeurIPS 2020)*.
- [1] **Srinivasan, V.**; Ravi Sankar, A.; Balasubramanian, V. “ADINE: an adaptive momentum method for stochastic gradient descent”. In *Proceedings of the ACM India Joint International Conference on Data Science and Management of Data (CODS-COMAD 2018)*.

## Workshop Publications

- [2] Lev, O.; Shenfeld, M.; **Srinivasan, V.**; Ligett, K.; Wilson, A. “Near-Optimal Private Linear Regression via Iterative Hessian Mixing”. Theory and Practice of Differential Privacy (TPDP 2026) at Boston, USA.
- [1] **Srinivasan, V.**; Wilson, A. Sufficient conditions for non-asymptotic convergence of Riemannian optimization methods. 14th International OPT Workshop on Optimization for Machine Learning at NeurIPS 2022, New Orleans, USA [**Oral presentation**].

## Awards and Achievements

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- Conference on Learning Theory (COLT) travel award 2024
- Top Reviewer for Neural Information Processing Systems (NeurIPS) 2022, 2023
- MIT Schwarzman College of Computing Fellow Sep 2021 – May 2022
- PyTorch Developer Conference travel award 2018, 2019
- S. N. Bose Scholar 2018
- Excellence in Research, IIT Hyderabad 2017, 2018
- Excellence in Academics, IIT Hyderabad 2015
- Ranked 527 out of  $\approx 1.3$  million candidates in India in the JEE (Main) 2015

## Contributed Talks and Posters

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- Accelerated Convex Optimization via Hamiltonian Dynamics with Deterministic Integration Time*
- MIT LIDS Tea Talk [**Talk**] Apr 2026
- Designing Algorithms for Entropic Optimal Transport from an Optimisation Perspective*
- 37<sup>th</sup> International Conference on Algorithmic Learning Theory (COLT) [**Talk**] Feb 2026
  - 31<sup>st</sup> Annual Sanjoy K. Mitter LIDS Student Conference [**Talk**] Jan 2026
  - 17<sup>th</sup> International Workshop on Optimization for Machine Learning (OPT-ML) [**Poster**] Dec 2025
- The Gaussian Mixing Mechanism: Renyi Differential Privacy via Gaussian Sketches*
- 39<sup>th</sup> Annual Conference on Neural Information Processing Systems (NeurIPS) [**Poster**] Dec 2025
- High-accuracy sampling from constrained spaces with the Metropolis-adjusted Preconditioned Langevin Algorithm*
- 36<sup>th</sup> International Conference on Algorithmic Learning Theory (ALT) [**Talk**] Feb 2025
  - 30<sup>th</sup> Annual Sanjoy K. Mitter LIDS Student Conference [**Talk**] Jan 2025
  - Yale FDS: Recent Advances and Future Directions for Sampling [**Poster**] Oct 2024

*Fast sampling from constrained spaces using the Metropolis-adjusted Mirror Langevin algorithm*

- 37<sup>th</sup> Conference on Learning Theory (COLT) [Talk] Jun 2024
- MIT Statistics and Data Science Conference (SDSCon) [Lightning Talk] Apr 2024
- 29<sup>th</sup> Annual LIDS Student Conference [Talk] Jan 2024

## Experience

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**Meta Platforms, Inc. (formerly Facebook)** Remote

Visiting Researcher, Adaptive Experimentation Team Feb 2021 – Aug 2021

- Developed an internal batched L-BFGS solver supporting polytopic constraints written purely in PyTorch aimed at solving batches of optimisation problems simultaneously.
  - Targeted at optimisation of non-convex acquisition functions arising in Bayesian optimisation with multiple initialisations to improve quality of solutions.
  - Leveraged batched linear algebra functionality in PyTorch to use hardware-specific parallelisation capabilities to run on both CPU and GPUs.
- Also worked on augmenting other functionalities in BoTorch (a popular Bayesian Optimisation package written in PyTorch).

**Carnegie Mellon University** Pittsburgh, PA

Research Intern, Computer Science Department Jun 2018 – Jul 2018

- Worked with Prof. Zico Kolter on identifying infinite-width limits of feedforward neural networks with ReLU activations for learned via gradient flow.

## Professional Service

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*Reviewer for Conferences / Journals*

<b>NeurIPS</b>	2021 – 2026
<b>ICML</b>	2022 – 2026
<b>COLT</b>	2025 – 2026
<b>AISTATS</b>	2025
<b>JOTA</b>	2025

*Teaching*

**MIT** 6.7830: Bayesian Modelling and Inference (Spring 2026)  
6.7830: Bayesian Modelling and Inference (Spring 2025)  
6.7810: Algorithms for Inference (Fall 2023)

**CMU** 10-725: Convex Optimisation (Fall 2020)  
10-725: Convex Optimisation (Spring 2020)

*Departmental Leadership / Mentorship*

- EECS PhD Student Representative to the Visiting Committee. 2026
  - Part of 20 student committee to design biennial survey to assess the EECS PhD journey, and present findings to the Visiting Committee.
- EECS Communication Fellow. 2024 – 2026
  - Provided advice and assistance to numerous students and post-docs affiliated with EECS to improve their communication (for e.g., conference presentations, job talks, graduate school applications).
- EECS Department Representative in the MIT Graduate Student Council. 2022 – 2024
- Vice-President of Academics, EECS Graduate Student Association. 2022 – 2023
- EECS PhD Admissions Committee. 2024
  - Evaluated  $\approx 40$  applications as part of the first round of reviewing.

*Other service*

- EECS GSA Coffee Hour Chair and CSAIL Muffin Monday Man. 2021 – 2022
  - Organised weekly coffee hour events on Mondays and Fridays to facilitate socialisation amongst EECS graduate students.
- Core Contributor at PyTorch. 2018 – 2020
  - Modified  $\approx 26000$  lines of code in the PyTorch codebase; introduced batched linear algebra and various distribution functionality.
  - Emeritus [maintainer](#) of `torch.distributions` and `torch.linalg` modules.