

Abhinav Bhatia

4th year Ph.D. student, University of Massachusetts Amherst | College of Information and Computer Science

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Website: <https://abhinavbhatia.me>

Interests

Artificial Intelligence, Deep Reinforcement Learning, Sequential Decision Making

Education

- **Ph.D. in Computer Science**, University of Massachusetts Amherst, 2025 (Expected)
 - Advisor: [Shlomo Zilberstein](#)
 - Coursework: Artificial Intelligence, Reinforcement Learning, Neural Networks, Robotics, Machine Learning, Advanced Algorithms, Empirical Research Methods, Advanced Information Assurance
- **M.S. in Computer Science**, University of Massachusetts Amherst, 2022. GPA 3.94/4.
- **B.E. (Hons.) in Computer Science**, Birla Institute of Technology and Science Pilani, 2015. GPA 9.27/10.

Work Experience

- Fall 2022 – Present: **Teaching Assistant** at College of Information & Computer Sciences, **University of Massachusetts Amherst**
- Fall 2019 – Summer 2022: **Research Assistant** at College of Information & Computer Sciences, **University of Massachusetts Amherst**
 - [Resource Bounded Reasoning Lab](#)
 - Supervisor: [Shlomo Zilberstein](#)
- Jun 2017 - Jul 2019: **Research Engineer** at School of Computing and Information Systems, **Singapore Management University**
 - Worked on optimizing constrained resource allocation at city scale using deep reinforcement learning. Led to a publication.
 - Supervisors: [Pradeep Varakantham](#) and [Akshat Kumar](#)
- Aug 2015 - Jun 2017: **Software Engineer at Walmart Labs**, Bengaluru
 - As part of *Operations, Analytics & Research* team for supply-chain division of Walmart's eCommerce business, developed a deep-learning based system for anomaly-detection in live incoming data streams.
- Jan 2015 - Jun 2015: **Software Development Engineer Intern at Amazon**, Bengaluru
 - Worked on offline experience for Prime Video.

Publications

- [Selecting the Partial State Abstractions of MDPs: A Metareasoning Approach with Deep Reinforcement Learning](#) **IROS 2022**
Nashed, S. B., Svegliato, J., **Bhatia, A.**, Russell, S., & Zilberstein, S. (2022). In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*. [PDF](#)
- [Tuning the Hyperparameters of Anytime Planning: A Metareasoning Approach with Deep Reinforcement Learning](#) **ICAPS 2022**
Bhatia, A., Svegliato, J., Nashed, S. B., & Zilberstein, S. (2022). In *Proceedings of the International Conference on Automated Planning and Scheduling*, 32(1), 556-564. [URL](#) [PDF](#)
- [Adaptive Rollout Length for Model-Based RL Using Model-Free Deep RL](#) **ArXiv 2022**
Bhatia, A., Thomas, PS., & Zilberstein, S. (2022). In *arXiv preprint arXiv:2206.02380*. [URL](#) [PDF](#)
- [On the Benefits of Randomly Adjusting Anytime Weighted A*](#) **SoCS 2021**
Bhatia, A., Svegliato, J., & Zilberstein, S. (2021). In *Proceedings of the International Symposium on Combinatorial Search* (Vol. 12, No. 1, pp. 116-120). [URL](#) [PDF](#)

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- [Tuning the Hyperparameters of Anytime Planning: A Deep Reinforcement Learning Approach](#) HSDIP 2021
Bhatia, A., Svegliato, J., & Zilberstein, S. (2021). In *ICAPS 2021 Workshop on Heuristics and Search for Domain-independent Planning*. [URL](#) [PDF](#)
- [Resource Constrained Deep Reinforcement Learning](#) ICAPS 2019
Bhatia, A., Varakantham, P., & Kumar, A. (2019). In *Proceedings of the International Conference on Automated Planning and Scheduling*, 29(1), 610-620. [URL](#) [PDF](#)

Teaching

- Fall 2022: **Teaching Assistant** for **CS383 Artificial Intelligence** at **University of Massachusetts Amherst**

Misc.

- Program Committee member, AAAI 2023.
- Journal paper reviewer, AIJ 2021.
- As a member of IEEE BITS-Pilani chapter, organized an AI bot making competition for a video game I developed, 2014.
- Won 1st Prize for project *PC 3D-Gesture Interface using Kinect* in Design Appliances category in BITS-Pilani technical festival, 2014.
- Offered *Kishore Vaigyanik Protsahan Yojana* fellowship, which is an initiative by govt. of India. to encourage young students to pursue a career in research, 2010.

Skills

- Languages: Experienced in Julia, Python, C++. Familiar with Java, C#, SQL
- Frameworks: OpenAI Gym, PyTorch, FluxML, TensorFlow, CPLEX, Elasticsearch, Unity3D

Other Interests

Singing; Playing musical instruments; Game development; Watching documentaries/podcasts/audiobooks.

Links

Personal Webpage: <https://abhinavbhatia.me>

LinkedIn: <https://www.linkedin.com/in/abhinbhatia/>

Google Scholar: <https://scholar.google.com/citations?user=Y53CNrIAAAAJ&hl=en>

GitHub: <https://github.com/bhatiaabhinav>

Undergrad Projects: <https://abhinavbhatia.me/posts/undergrad-projects>