Abhinav Bhatia

3rd year Ph.D. student, University of Massachusetts Amherst | College of Information and Computer Science

E-Mail: abhinavbhati@umass.edu, abhinav.bhatia.me@gmail.com
About: 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 2019 - Present: **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

- Tuning the Hyperparameters of Anytime Planning: A Metareasoning Approach with Deep Reinforcement Learning
  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.
- Adaptive Rollout Length for Model-Based RL Using Model-Free Deep RL
  Bhatia, A., Thomas, PS., & Zilberstein, S. (2022). In *arXiv preprint arXiv:2206.02380*.
- On the Benefits of Randomly Adjusting Anytime Weighted A*
  Bhatia, A., Svegliato, J., & Zilberstein, S. (2021). In *Proceedings of the International Symposium on Combinatorial Search* (Vol. 12, No. 1, pp. 116-120).
- Tuning the Hyperparameters of Anytime Planning: A Deep Reinforcement Learning Approach
  Bhatia, A., Svegliato, J., & Zilberstein, S. (2021). In *ICAPS 2021 Workshop on Heuristics and Search for Domain-independent Planning.*
- Resource Constrained Deep Reinforcement Learning
  Bhatia, A., Varakantham, P., & Kumar, A. (2019). In *Proceedings of the International Conference on Automated Planning and Scheduling, 29*(1), 610-620.

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Misc

- Reviewed a journal paper for 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