

Susobhan Ghosh

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📄 github.com/susobhang70

Education

PhD Student, *Computer Science*, Harvard University, CGPA - 3.9/4.0.

B.Tech (Honors) + M.S. by Research, *Computer Science*, IIIT Hyderabad, CGPA - 9.29/10.

Experience

- Aug 2020 - **Graduate Research Assistant**, *SEAS*, Harvard University.
Present Advised by Prof. Susan Murphy
- Sep 2019 - **Research Engineer**, *School of Information Systems*, Singapore Management University.
Dec 2020 A: Dr. Pradeep Varakantham. Developing defenses for adversarial attacks on machine learning models.
- Aug 2018 - **Graduate Research Assistant**, *Machine Learning Lab*, IIIT Hyderabad.
May 2019 Advisors: Dr. Praveen Paruchuri and Dr. Sujit Gujar. Developed algorithms for an autonomous trading agent for energy markets. Placed 2nd in annual PowerTAC 2018 competition.
- Aug 2016 - **Teaching Assistant**, *IIIT Hyderabad*.
May 2019 (i) Principles of Information Security (Spring 2019, Spring 2018), (ii) Introduction to Game Theory (Monsoon 2017), (iii) Computer Networks (Spring 2017), and (iv) SSAD & Project (Monsoon 2016)
- May–July 2018 **Research Intern**, *Innovation Labs*, Tata Consultancy Services - Hyderabad.
Advisors: Dr. Easwar Subramanian and Dr. Sanjay Bhat. Improved, and developed new trading algorithms for a trading agent in the energy market. *Java, Python*
- May–July 2017 **Research Intern**, *Innovation Labs*, Tata Consultancy Services - Hyderabad.
Advisors: Dr. Easwar Subramanian and Dr. Sanjay Bhat. Developed a power trading agent & benchmarked against past agents using PowerTAC testbed. *Java*
- May – Sep 2016 **Google Summer of Code**, LibreOffice, [🔗](#).
Developed 7 panels and 3 decks in the sidebar for the LibreOffice suite (released in v5.3). Panels offered quick settings for page formatting, background, fonts, media playback, headers & footers etc. *C++, Glade*
- June 2015 **Teaching Assistant**, *IIT Kharagpur*, Network Management Workshop.
Instructor - Dr. Swapan Purkait. *Bash, Networking, Linux, Cisco Packet Tracer*
- July 2014 **Teaching Assistant**, *Nettech Private Limited*, Network Management Workshop - Kolkata.
Instructor - Dr. Swapan Purkait. *Bash, Networking, Linux, Cisco Packet Tracer*

Publications

- Under Review **Effective Monitoring of Online Decision-Making Algorithms in Digital Intervention Implementation**, *Susobhan Ghosh**, *Anna Trella**, *Erin Bonar*, *Lara Coughlin*, *Finale Doshi-Velez*, *Yongyi Guo*, *Pei-Yao Hung*, *Inbal Nahum-Shani*, *Vivek Shetty*, *Maureen Walton*, *Iris Yan*, *Kelly Zhang*, *Susan Murphy*, Under Review, [🔗](#).
- CCT **A mobile health intervention for emerging adults with regular cannabis use: A micro-randomized pilot trial design protocol**, *Lara Coughlin*, *Maya Campbell*, *Tiffany Wheeler*, *Chavez Rodriguez*, *Autumn Rae Florimbio*, *Susobhan Ghosh*, *Yongyi Guo*, *Pei-Yao Hung*, *Mark Newman*, *Huijie Pan*, *Kelly Zhang*, *Lauren Zimmermann*, *Erin Bonar*, *Maureen Walton*, *Susan Murphy*, *Inbal Nahum-Shani*, *Contemporary Clinical Trials*, [🔗](#).
- IJCAI-24 **reBandit: Random Effects based Online RL algorithm for Reducing Cannabis Use**, *Susobhan Ghosh*, *Yongyi Guo*, *Pei-Yao Hung*, *Lara Coughlin*, *Erin Bonar*, *Inbal Nahum-Shani*, *Maureen Walton*, *Susan Murphy*, In proceedings of the International Joint Conference on Artificial Intelligence 2024 (IJCAI 24), [🔗](#).

- Book Chapter **VidutVanika: AI-Based Autonomous Broker for Smart Grids: From Theory to Practice**, Sanjay Chandlekar, Bala Suraj Pedasingu, Susobhan Ghosh, Easwar Subramanian, Sanjay Bhat, Praveen Paruchuri, Sujit Gujar, Applied Innovation and Technology Management Book Series - Energy Sustainability through Retail Electricity Markets, [↗](#).
- MLJ **Did we personalize? Assessing personalization by an online reinforcement learning algorithm using resampling**, Susobhan Ghosh*, Raphael Kim*, Prasad Chhabria, Raaz Dwivedi, Predrag Klasnja, Peng Liao, Kelly Zhang, Susan Murphy, Machine Learning Journal - Special Issue on Reinforcement Learning for Real Life, [↗](#).
- AAMAS-23 **Fairness for Workers Who Pull the Arms: An Index Based Policy for Allocation of Restless Bandit Tasks**, Arpita Biswas, Jackson Killian, Paula Diaz, Susobhan Ghosh, Milind Tambe, In proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2023, [↗](#).
- AAMAS-22 **Efficient Algorithms for Finite Horizon and Streaming Restless Multi-Armed Bandit Problems**, Aditya Mate, Arpita Biswas, Christoph Siebenbrunner, Susobhan Ghosh, Milind Tambe, In proceedings of the 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2022, [↗](#).
- IAAI-22 **Facilitating human-wildlife cohabitation through conflict prediction**, Susobhan Ghosh, Pradeep Varakantham, Aniket Bhatkhande, Tamanna Ahmad, Anish Andheria, Wenjun Li, Aparna Taneja, Divy Thakkar, Milind Tambe, In proceedings of the 34th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI), 2022, [↗](#).
- IAAI-22 **Using Public Data to Predict Demand for Mobile Health Clinics**, Haipeng Chen, Susobhan Ghosh, Gregory Fan, Nikhil Behari, Arpita Biswas, Mollie Williams, Nancy E. Oriol, Milind Tambe, In proceedings of the 34th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI), 2022, [↗](#).
- AAAI-20 **Bidding in Smart Grid PDAs: Theory, Analysis and Strategy**, Susobhan Ghosh, Sujit Gujar, Praveen Paruchuri, Easwar Subramanian, Sanjay P. Bhat, In proceedings of Thirty-Fourth AAAI Conference on Artificial Intelligence, [↗](#).
- AAAI-19 **VidutVanika: A Reinforcement Learning Based Broker Agent for a Power Trading Competition**, Susobhan Ghosh, Easwar Subramanian, Sanjay P. Bhat, Sujit Gujar, Praveen Paruchuri, In proceedings of Thirty-Third AAAI Conference on Artificial Intelligence, [↗](#).
- MS Thesis **Learning Strategies for Power Trading in Smart Grids**, Susobhan Ghosh, International Institute of Information Technology, Hyderabad, [↗](#).
- PASS-19 **VidutVanika: An Autonomous Broker Agent for Smart Grid Environment**, Susobhan Ghosh, Kritika Prakash, Sanjay Chandlekar, Easwar Subramanian, Sanjay P. Bhat, Sujit Gujar, Praveen Paruchuri, Accepted for Policy, Awareness, Sustainability and Systems (PASS) Workshop.

Achievements & Honors

Gold Medalist: Awarded for having highest CGPA in class of 2015.

Dean's Merit List: Award for Academic Excellence for years 2015-16, 2016-17 & 2017-18

AAAI Student Scholarship and Volunteer: Awarded to students publishing in AAAI conference.

Microsoft Research Travel Grant: To attend AAAI-19

Central Sector Scheme of Scholarship (CSSS) 2013

Prime Minister Scholarship Scheme (PMSS) 2013

ACM ICPC 2014: Qualified for the Onsite Kharagpur Regionals

Skills

Languages	C, C++, Python, Java, Erlang, SQL, HTML5, CSS3, JS, PHP, UML
Frameworks	Weka, Three.js, AngularJS, Ruby on Rails, OpenGL 3.0, WebGL, Scikit-Learn, Bootstrap, PyGame

Others Git, GNU/Linux, LibreOffice Development, Moodle Extension Development, Autodesk Maya, Glade, Network Management, Tox, Matlab, \LaTeX , Cisco Packet Tracer

References

Dr. Susan A. Murphy: Professor at Harvard University

Dr. Pradeep Varakantham: Associate Professor at SIS, Singapore Management University

Dr. Praveen Paruchuri: Associate Professor at Machine Learning Lab, IIIT Hyderabad

Dr. Sujit Gujar: Assistant Professor at Machine Learning Lab, IIIT Hyderabad

Dr. Sanjay P. Bhat: Principal Scientist at Innovation Labs, TCS Hyderabad

Dr. Easwar Subramanian: Scientist at Innovation Labs, TCS Hyderabad