SRIRAM GOPALAKRISHNAN

Email:sgopal28@asu.edu

EDUCATION

Ph.D. Computer Science with a focus on Automated Planning with Neural Networks
- Arizona State University (in-progress)　　　May 2022
G.P.A. : 4.0

M.Sc. Computer Science with Thesis - Lehigh University, Bethlehem, PA　　May 2017
G.P.A. : 4.0

B.Sc. Electrical Engineering, B.A. in Computer Science - Lafayette College, Easton, PA　　2010
G.P.A. : 3.72

SKILLS

- Automated Planning, Neural Networks, Reinforcement Learning, Natural Language Processing
- Programming Languages: Python, C++, C, Matlab, Java
  ML libraries: Pytorch, Keras, TensorFlow, PyMC3, and SciKit-Learn libraries.
- Knowledgeable about and Implemented code with design patterns for complex software projects.
- Extensive experience with Microcontroller/Embedded applications, both hardware and software. Programmed large scale embedded systems with sensor networks, distributed intelligence, and fail-safes for robust behavior
- Soft Skills: Conflict resolution, and negotiation. Project management and presentations.

RELEVANT GRADUATE LEVEL COURSES

- Graduate Courses : Statistical Machine Learning, Fundamentals of Statistical Learning, Human-Aware A.I., Data Mining, Intelligent Agents, Text Mining, Search Engines, Advanced Algorithms, Advanced Programming Techniques, Advanced Operating Systems, Bio-Computing.
- Online Courses : Machine Learning (on Coursera by Andrew Ng). Probabilistic Graphical Models (on Coursera by Daphne Koller)

PUBLICATIONS AND PRESENTATIONS

- Gopalakrishnan, S., Cohen, L., Koenig, S., & Kumar, T. S. (2020, May). Embedding Directed Graphs in Potential Fields Using FastMap-D. In Thirteenth Annual Symposium on Combinatorial Search.

- Gopalakrishnan, S., & Kambhampati, S. (2020,October). Model Minimization For Online Predictability. In the workshop on Explainable AI in Planning, ICAPS 2020, Remote Conference due to COVID-19.

- Borrajo, D., Gopalakrishnan, S., & Potluru, V. (2020,October). Goal Recognition via Model-based and Model-free Techniques. In the workshop on Planning for Financial Services (FinPlan), ICAPS 2020, Remote Conference due to COVID-19.

- Gopalakrishnan, S., Soni, U., & Kambhampati, S. (2019,July). Feature Directed Active Learning. In the Workshop on Explainable AI in Planning, ICAPS 2019, Berkeley, CA, USA

- Gopalakrishnan, S., & Kambhampati, S. (2019,July). TGE-viz : Transition Graph Embedding for Visualization of Plan Traces and Domains.https://arxiv.org/pdf/1811.09900.pdf. Complete system demonstrated at ICAPS 2019, Berkeley, CA, USA

- Zha, Y., Li, Y., Gopalakrishnan, S., Li, B., & Kambhampati, S. (2018, July). Recognizing Plans by Learning Embeddings from Observed Action Distributions. In Proceedings of the 17th International Conference on Autonomous Agents and MultiAgent Systems (pp. 2153-2155). International Foundation for Autonomous Agents and Multiagent Systems.

- Gopalakrishnan, S., Muñoz-Avila, H., & Kuter, U. (2018). Learning task hierarchies using statistical semantics and goal reasoning (Journal version). AI Communications (2018)

- Nguyen, C., Reifsnyder, N., Gopalakrishnan, S., & Munoz-Avila, H. (2017, August). Automated learning of hierarchical task networks for controlling minecraft agents. In Computational Intelligence and Games (CIG), 2017 IEEE Conference on (pp. 226-231). IEEE.

- Gopalakrishnan, S., "Learning Hierarchical Task Networks Using Semantic Word Embeddings" (2017). Theses and Dissertations. 2608. Lehigh University,PA, USA. https://preserve.lehigh.edu/etd/2608

- Gopalakrishnan,S., Muñoz-Avila,H., Kuter,U., Word2HTN:Learning Task Hierarchies Using Statistical Semantics and Goal Reasoning. *The IJCAI-2016 Workshop on Goal Reasoning.* AAAI Press. 2016. New York,NY,USA.

WORK EXPERIENCE

- **Summer Associate - AI/ML Research** (JP Morgan and Chase)   2020
  + Collaborated on two research projects with the AI research team at JPMC (details are confidential)

- **Design and Development Engineer** (Lutron Electronics)   2013- 2015
  + Managed the Embedded Engineering team for a large scale automated lighting and HVAC control system for home, and commercial building automation
  + Improved upon software architecture. Designed and Implemented a new communication protocol for the control system
  + Mentored new employees

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1411 S Oakley PL, Tempe,AZ - 85281, USA | Ph:484-903-8807 | Email:sgopal28@asu.edu

- **Project Embedded Electrical Engineer** (Lutron Electronics)   2010-2013
    + Developed new features for a lighting control system, running on a 32-bit microcontroller.
    + Used design patterns to write robust code. Designed comprehensive test case scenarios for verification.
    + Worked with the manufacturing team to troubleshoots the production and hardware issues
    + Managed offshore development team for embedded software.
    + Supervised interns/co-ops

PATENTS

- Digital messages in a load control system
http://www.patentsencyclopedia.com/app/20150295411
https://patents.google.com/patent/US20150295411A1/en
- Load Control system responsive to location of an occupant and mobile devices:
https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2016029165
https://patents.google.com/patent/WO2016029165A2/ko

REFERENCES

- Dr. Subbarao Kambhampati (Computer Science professor and Ph.D. research advisor)
    rao@asu.edu
- Dr. Satish Kumar Thittamaranahalli (Research Collaborator, Assistant Professor at University of Southern California)
    tkskwork@gmail.com / thittama@usc.edu
- Liron Cohen (Research Collaborator, Phd Candidate at University of Southern California)
    lironcoh@usc.edu
- Dr. Héctor Muñoz-Avila (Master's Thesis Advisor, Professor at Lehigh University)
    hem4@lehigh.edu
- Dr. Ugur Kuter (Senior Researcher at SIFT and research collaborator)
    ukuter@sift.net

CO-CURRICULARS

Certified Yoga Teacher. Carpentry.