# Sailik Sengupta

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## Quick Links

Website
Linkedin
Github
Google Scholar

## Languages

English
Bengali
Hindi

## Programming

Python, Java, C++
Gurobi and Keras
HTML, CSS & JS

## Skills

Optimization
Robust DNNs
Deep Learning
Automated Planning
Network Security
Game-theoretic Modeling

## Research Interests

- Robust Machine Learning, Game Theory, Natural Language Understanding
- Decision Support Systems, Moving Target Defense, Cloud Network Security

## Education

2015–20 **Ph.D. Candidate** in Computer Science — GPA: 4.00/4.00
Arizona State University, USA

2009-13 **Bachelors in Engineering** — GPA: 8.72/10 (Top-3)
Computer Science & Engineering at Jadavpur University, India

## Professional Experience

Oct 2019 **amazon AI - AWS Lex** — Applied Scientist
Natural Language Understanding

May-Aug 2019 **amazon AI - AWS Lex** — Research Scientist Intern
Natural Language Processing– Text Generation

May-Aug 2018 **amazon AI - AWS Lex** — Research Scientist Intern
Natural Language Processing– Goal-directed Dialog Systems

2013-15 **amazon** — Software Development Engineer
External Payment Systems

## Selected Awards

★ [2018-2020] IBM Ph.D. Fellowship
★ [2019] Top 3 Intern Research Projects, Amazon Research
★ [2016-2020] Graduate Research Fellowship, CIDSE, Arizona State University
★ [2019] Engineering Graduate Fellowship, Ira A. Fulton Schools of Engineering and the Polytechnic School, Arizona State University
★ [2015] Outstanding developer of the year, External Payment Systems, Amazon
★ [2013] Top 3 in Computer Science and Engineering, Jadavpur University
★ [2008-2009] National Level Olympiad participant in Physics, Chemistry and Mathematics

## Publications

HICSS 2021 **Software Deception Steering through Version Emulation**
F. Araujo, S. Sengupta, J. Jang, A. Doupé, K. Hamlen, S. Kambhampati

NeurIPS'20 Workshop **Multi-agent Reinforcement Learning in Bayesian Stackelberg Markov Games for Adaptive Moving Target Defense**
S. Sengupta, S. Kambhampati

NeurIPS'20 Workshop **`Why not give this work to them?' Explaining AI-Moderated Task-Allocation Outcomes using Negotiation Trees**
Z. Zahedi*, S. Sengupta*, S. Kambhampati

GameSec 2020 **Moving Target Defense for Robust Fingerprinting of Electric Grid Transformers in Adversarial Environments**
S. Sengupta, K. Basu, A. Sen, S. Kambhampati

ICML' 20 Workshop **Not all Failure Modes are Created Equal: Training Deep Neural Networks for Explicable (Mis)Classification**
A. Olmo*, S. Sengupta*, S. Kambhampati

IEEE Com S&T 2020 **A Survey of Moving Target Defenses for Network Security**
S. Sengupta*, A. Chowdhary*, A. Sabur, D. Huang, A. Alshamrani and S. Kambhampati

HCI Journal 2020 **RADAR: Automated Task Planning for Proactive Decision Support**
S. Grover, S. Sengupta, T. Chakraborti, A. P. Mishra and S. Kambhampati

ML-Hat 2020 **DAPT 2020-- Constructing a Benchmark Dataset for Advanced Persistent Threats**
S. Myneni*, A. Chowdhary*, A. Sabur, S. Sengupta, G. Agrawal, D. Huang and M. Kang

WeCNLP 2019 **Text Generation with Keyword Constraints-- a Hyrbrid Approach Using Supervised and Reinforcement Learning**
S. Sengupta, H. He, B. Haider, S. Gella, M. Diab

GameSec 2019 **MTDeep: Moving Target Defense to Boost the Security of Deep Neural Nets Against Adversarial Attacks**
S. Sengupta, T. Chakraborti, S. Kambhampati

GameSec 2019 **General Sum Markov Games for Strategic Detection of Advanced Persistent Threats using Moving Target Defense in Cloud Networks**
S. Sengupta, A. Chowdhary, D. Huang, S. Kambhampati

AAAI'19 Workshop **Markov Game Modeling of Moving Target Defense for Strategic Detection of Threats in Cloud Networks**
S. Sengupta*, A. Chowdhary*, D. Huang, S. Kambhampati

Trust 2019 **To Monitor or to Trust: Observing Robot's Behavior based on a Game-Theoretic Model of Trust**
S. Sengupta*, Z. Zahedi*, S. Kambhampati

ICNC 2019 **Adaptive MTD Security using Markov Game Modeling**
A. Chowdhary, S. Sengupta, A. Alshamrani, A. Sabur, D. Huang

NDM 2019 **iPass: A Case Study of the Effectiveness of Automated Planning for Decision Support**
S. Grover, S. Sengupta, T. Chakraborti, A. Mishra, S. Kambhampati

NDM 2019 **CAP: A Decision Support System for Crew Scheduling using Automated Planning**
A. Mishra, S. Sengupta, S. Sreedharan, T. Chakraborti, S. Kambhampati

GameSec 2018 **Moving Target Defense for the Placement of Intrusion Detection Systems in the Cloud**
S. Sengupta, A. Chowdhary, D. Huang, S. Kambhampati

AAAI'18 Workshop **An Investigation of Bounded Misclassification for Operational Security of Deep Neural Networks**
S. Sengupta, A. Dudley, T. Chakraborti and S. Kambhampati

WeCNLP 2018 **[Redacted] Decomposable Intents in Goal-Directed Conversations: Dataset and Challenges for End-to-End Learning**
S. Sengupta, R. Gangadharaiah, A. Mishra, M. Diab

ICAPS'18 System Demo **MA-RADAR - A Mixed-Reality Interface for Collaborative Decision Making**
S. Sengupta*, T. Chakraborti* and S. Kambhampati

AAAI'17 Fall Symposium
ICAPS'17 System Demo **RADAR -- A Proactive Decision Support System for Human-in-the-Loop Planning**
S. Sengupta, T. Chakraborti, S. Sreedharan, S. G. Vadlamudi and S. Kambhampati

AAMAS 2017 **A Game Theoretic Approach in Strategy Generation for Moving Target Defense with Switching Costs**
S. Sengupta, S. G. Vadlamudi, S. Kambhampati, M. Taguinod, Z. Zhao, A. Doupe and G. Ahn

AAMAS DC 2017 **Moving Target Defense- A Symbiotic Framework for Artificial Intelligence and Security**
S. Sengupta

SoCS 2016 **Compliant Conditions for Polynomial Time Approximation of Operator Counts**
T. Chakraborti, S. Sreedharan, S. Sengupta, T.K. Satish Kumar and S. Kambhampati

AAMAS 2016 **Moving Target Defense For Web Applications Using Bayesian Stackelberg Games**
S. G. Vadlamudi, S. Sengupta, S. Kambhampati, M. Taguinod, Z. Zhao, A. Doupe and G. Ahn

ReTIS 2011 **An improved fuzzy clustering method using modified Fukuyama Sugeno cluster validity index**
S. Sengupta, S. De, A. Konar and R. Janarthanan

## Service

- Reviewer for NeurIPS-20, AAAI-20, IJCAI-20, AAAI-19, IEEE L-CSS (and multiple workshops at AAAI and AAMAS; auxillary reviewer for ICRA'17, ICAPS'17 and ICAPS'18).
- Student Volunteer for AAMAS 2017, GameSec 2018.
- Web-developer for IJCAI 2017.
- Member of the Review Process Committee for IJCAI 2017.
- Organizer of Coding Competitions at SRIJAN'13, Jadavpur University.