SWETASUDHA PANDA

Boston, Massachusetts
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RESEARCH INTERESTS

Algorithmic fairness, Large-scale stochastic planning: markov decision processes (MDPs), machine learning, reinforcement learning, multiagent systems, computational game theory, optimization, artificial intelligence.

EDUCATION

Vanderbilt University, Nashville, Tennessee, US Jul 2018
Ph.D. Computer Science
Advisor: Prof. Yevgeniy Vorobeychik, Computer Science and Computer Engineering
Thesis: Algorithms for Large-Scale Adversarial Decision Problems
M.Sc. Computer Science (GPA: 3.88/4.00)

Indian Institute of Technology, Kharagpur, West Bengal, India Aug 2012
B.Tech., Electrical Engineering (GPA: 8.89/10.00)
Undergraduate Project: Image Registration Algorithms for Position Estimation
Advisor: Prof. Pranab Kumar Dutta, Electrical Engineering

RESEARCH EXPERIENCE

Oracle Labs, Burlington, Massachusetts, US Aug 2018 - present
Senior Member of Technical Staff / Core Research Member, Machine Learning Research Group
 – Working on algorithmic fairness and machine learning.

Vanderbilt University, Nashville, Tennessee, US Aug 2012 - Jul 2018
Graduate Research Assistant
 – Stackelberg game models of plan interdiction in MDPs, inspired by cybersecurity applications.
 – Game-theoretic modeling for robust antibody protein sequence design.
 – Machine learning, Image segmentation and Statistical label fusion.

Apple Inc., Austin, Texas, US May - Jul 2017
Summer Intern
 – Learning algorithms for text mining and spam classification.

Max Planck Institute, Magdeburg, Germany May - Jul 2011
Research Intern, DAAD Scholar
Advisor: Prof. Peter Benner, Computational Methods in System and Control Theory
 – Terminal Reduction of Linear Time Invariant Systems: Termmerg approach for model order reduction, incorporating singular value decomposition and K-means clustering.

REFEREED CONFERENCE PUBLICATIONS

 – Scaling Hierarchical Coreference with Homomorphic Compression.
   Michael L. Wick, **Swetasudha Panda**, Joseph Tassarotti, Jean-Baptiste Tristan
   Automated Knowledge Base Construction **(AKBC) 2019**.
 – Scalable initial state interdiction for factored MDPs.
   Swetasudha Panda and Yevgeniy Vorobeychik.
   International Joint Conference on Artificial Intelligence **(IJCAI) 2018**.
 – Near-optimal interdiction of factored MDPs.
   Swetasudha Panda and Yevgeniy Vorobeychik.
   Uncertainty in Artificial Intelligence **(UAI) 2017**.
 – Stackelberg games for vaccine design.
   Swetasudha Panda and Yevgeniy Vorobeychik.
   Autonomous Agents and Multiagent Systems **(AAMAS) 2015**.
 – Designing vaccines that are robust to virus escape.
   Swetasudha Panda and Yevgeniy Vorobeychik.
   Association for Advancement of Artificial Intelligence **(AAAI) 2015**.
 – Robust optic nerve segmentation on clinically acquired CT.
   Swetasudha Panda, Andrew J. Asman, Michael P. DeLisi, Louise A. Mawn, Robert L. Galloway,

Bennett A. Landman.
Medical Imaging Conference **(SPIE) 2014**.

REFEREED JOURNAL PUBLICATIONS

– Integrating machine learning with structural modeling to increase HIV neutralization breadth.
Swetasudha Panda, Alexander M. Sevy, James E. Crowe, Jr, Jens Meiler, Yevgeniy Vorobeychik.
PLOS Computational Biology 2018.
– Evaluation of multi-atlas label fusion for MRI orbital segmentation.
Swetasudha Panda, Andrew J. Asman, Shweta P. Khare, Lindsey Thompson, Louise A. Mawn, Seth A. Smith, Bennett A. Landman.
Journal of Medical Imaging 2014.
– Robust optic nerve segmentation on clinically acquired CT.
Swetasudha Panda, Robert A. Harrigan, Andrew J. Asman, Michael P. DeLisi, Benjamin C. W. Yvernault, Robert L. Galloway, Louise A. Mawn, Bennett A. Landman.
Journal of Medical Imaging 2014.

WORKSHOP PUBLICATIONS

– Scalable initial state interdiction for factored MDPs.
Swetasudha Panda.
Women in Machine Learning 2018.
– Stackelberg games for antibody design.
Swetasudha Panda and Yevgeniy Vorobeychik.
AAAI 2015 Spring Symposium on **Applied Computational Game Theory 2015**.
– Regression forest region recognition enhances multi-atlas spleen labeling.
Bo Li, **Swetasudha Panda**, Zhoubing Xu, Andrew J. Asman, Peter L. Shanahan, Richard G. Abramson, Bennett A. Landman.
MICCAI Challenge Workshop on Segmentation: Algorithms, Theory and Applications **(MICCAI SATA) 2013**.

TEACHING EXPERIENCE

Vanderbilt University, Nashville, Tennessee, US
Graduate Teaching Assistant

– Computational Economics (graduate course)	Jan - Apr 2017
– Machine Learning (graduate course)	Jan - Apr 2016
– Artificial Intelligence (graduate course)	Aug - Dec 2014, 2015
– Introductory Programming (undergraduate course)	Aug - Dec 2012

PROFESSIONAL ACTIVITIES

– PC member, IJCAI 2019.
– Sub-reviewer in conferences: UAI, IJCAI, AAAI, AAMAS, CSF and EC.
– Conference Presentations: UAI 2017, AAMAS and AAAI 2015, WiML 2018.
– Invited Talks: Indian Institute of Technology Kharagpur and Indian Institutes of Science Education and Reserach, Dec 2018.

AWARDS AND ACHIEVEMENTS

– Travel Award, UAI.	2017
– Student scholarship, AAMAS.	2015
– DAAD (German Academic Exchange Service) WISE (Working Internships in Science and Engineering). scholarship.	2011
– MITACS Globalink scholarship for summer research internship.	2011
– Placed in the top 0.2%, Indian Institute of Technology (IIT) Joint Entrance Exam.	2008
– Placed in the top 1% in the National Standard Examination in Physics.	2008