

# Mon Dec 3rd

## Adversarial Robustness: Theory and Practice

Mon Dec 3rd 08:30 – 10:30 AM @ Room 220 CD  
Tutorial – In Tutorials Session 1  
J. Zico Kolter · Aleksander Madry

## Visualization for Machine Learning

Mon Dec 3rd 08:30 – 10:30 AM @ Room 220 E  
Tutorial – In Tutorials Session 1  
Fernanda Viégas · Martin Wattenberg

## Scalable Bayesian Inference

Mon Dec 3rd 08:30 – 10:30 AM @ Room 517 CD  
Tutorial – In Tutorials Session 1  
David Dunson

## Coffee Break

Mon Dec 3rd 10:30 – 11:00 AM @  
Break –

## Unsupervised Deep Learning

Mon Dec 3rd 11:00 AM – 01:00 PM @ Room 220 CD  
Tutorial – In Tutorials Session 2  
Alex Graves · Marc'Aurelio Ranzato

## Common Pitfalls for Studying the Human Side of Machine Learning

Mon Dec 3rd 11:00 AM – 01:00 PM @ Room 220 E  
Tutorial – In Tutorials Session 2  
Deirdre Mulligan · Nitin Kohli · Joshua A. Kroll

## Negative Dependence, Stable Polynomials, and All That

Mon Dec 3rd 11:00 AM – 01:00 PM @ Rooms 517 CD  
Tutorial – In Tutorials Session 2  
Suvrit Sra · Stefanie Jegelka

## Statistical Learning Theory: a Hitchhiker's Guide

Mon Dec 3rd 02:30 – 04:30 PM @ Room 220 E  
Tutorial – In Tutorials Session 3  
John Shawe-Taylor · Omar Rivasplata

## Automatic Machine Learning

Mon Dec 3rd 02:30 – 04:30 PM @ Room 220 CD  
Tutorial – In Tutorials Session 3  
Frank Hutter · Joaquin Vanschoren

## Counterfactual Inference

Mon Dec 3rd 02:30 – 04:30 PM @ Room 517 CD  
Tutorial – In Tutorials Session 3  
Susan Athey

## Coffee Break

Mon Dec 3rd 04:30 – 05:00 PM @  
Break –

## Opening Remarks

Mon Dec 3rd 05:00 – 05:30 PM @  
Break –

## Lack of Accountability in Data Science: Why We Should All Be Building Inclusive AI

Mon Dec 3rd 05:30 – 06:20 PM @ Rooms 220 CDE  
Invited Talk –  
Laura Gomez

## Opening Reception

Mon Dec 3rd 06:30 – 08:30 PM @  
Break –

## Tue Dec 4th

Machine Learning Meets Public Policy: What to Expect and How to Cope

Tue Dec 4th 08:30 – 09:20 AM @ Rooms 220 CDE  
Invited Talk – In Tue Invited Talk 1  
Edward W Felten

Test of Time Award

Tue Dec 4th 09:20 – 09:40 AM @  
Talk – In Test of Time

Coffee Break

Tue Dec 4th 09:40 – 10:05 AM @  
Break –

## In Tue Track 1 – Session 1

**Tue Dec 4th 10:05 – 10:20 AM @ Room 220 CD – Tue Dec 4th 10:30 – 10:45 AM @ Room 220 CD**

On Neuronal Capacity

Tue Dec 4th 10:05 – 10:20 AM @ Room 220 CD  
Oral – In Tue Track 1 – Session 1  
Pierre Baldi · Roman Vershynin  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #142

Learning Overparameterized Neural Networks via Stochastic Gradient Descent on Structured Data

Tue Dec 4th 10:20 – 10:25 AM @ Room 220 CD  
Spotlight – In Tue Track 1 – Session 1  
Yuanzhi Li · Yingyu Liang  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #143

Size-Noise Tradeoffs in Generative Networks

Tue Dec 4th 10:25 – 10:30 AM @ Room 220 CD  
Spotlight – In Tue Track 1 – Session 1  
Bolton Bailey · Matus Telgarsky  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #141

Dendritic cortical microcircuits approximate the backpropagation algorithm

Tue Dec 4th 10:30 – 10:45 AM @ Room 220 CD  
Oral – In Tue Track 1 – Session 1  
Jo?o Sacramento · Rui Ponte Costa · Yoshua Bengio · Walter Senn  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #139

## In Tue Track 2 – Session 1

**Tue Dec 4th 10:05 – 10:20 AM @ Room 220 E – Tue Dec 4th 10:30 – 10:45 AM @ Room 220 E**

On the Dimensionality of Word Embedding

Tue Dec 4th 10:05 – 10:20 AM @ Room 220 E  
Oral – In Tue Track 2 – Session 1  
Zi Yin · Yuanyuan Shen  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #101

Unsupervised Cross-Modal Alignment of Speech and Text Embedding Spaces

Tue Dec 4th 10:20 – 10:25 AM @ Room 220 E  
Spotlight – In Tue Track 2 – Session 1  
Yu-An Chung · Wei-Hung Weng · Schrasing Tong · James Glass  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #156

Diffusion Maps for Textual Network Embedding

Tue Dec 4th 10:25 – 10:30 AM @ Room 220 E  
Spotlight – In Tue Track 2 – Session 1  
Xinyuan Zhang · Yitong Li · Dinghan Shen · Lawrence Carin  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #152

A Retrieve-and-Edit Framework for Predicting Structured Outputs

Tue Dec 4th 10:30 – 10:45 AM @ Room 220 E  
Oral – In Tue Track 2 – Session 1  
Tatsunori Hashimoto · Kelvin Guu · Yonatan Oren · Percy Liang  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #154

## In Tue Track 3 – Session 1

**Tue Dec 4th 10:05 – 10:20 AM @ Room 517 CD – Tue Dec 4th 10:30 – 10:45 AM @ Room 517 CD**

Phase Retrieval Under a Generative Prior

Tue Dec 4th 10:05 – 10:20 AM @ Room 517 CD  
Oral – In Tue Track 3 – Session 1  
Paul Hand · Oscar Leong · Vlad Voroninski  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #162

Global Geometry of Multichannel Sparse Blind Deconvolution on the Sphere

Tue Dec 4th 10:20 – 10:25 AM @ Room 517 CD  
Spotlight – In Tue Track 3 – Session 1  
Yanjun Li · Yoram Bresler  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #161

Theoretical Linear Convergence of Unfolded ISTA and Its Practical Weights and Thresholds

Tue Dec 4th 10:25 – 10:30 AM @ Room 517 CD  
Spotlight – In Tue Track 3 – Session 1  
Xiaohan Chen · Jialin Liu · Zhangyang Wang · Wotao Yin  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #163

Spectral Filtering for General Linear Dynamical Systems

Tue Dec 4th 10:30 – 10:45 AM @ Room 517 CD  
Oral – In Tue Track 3 – Session 1  
Elad Hazan · HOLDEN LEE · Karan Singh · Cyril Zhang · Yi Zhang  
Poster Tue Dec 4th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #167

## In Tue Demonstrations

**Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D3 – Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D5**

Ruuh: A Deep Learning Based Conversational Social Agent

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D3  
Demonstration – In Tue Demonstrations  
Puneet Agrawal · Manoj Kumar Chinnakotla · Sonam Damani · Meghana Joshi · Kedhar Nath Narahari · Khyatti Gupta · Nitya Raviprakash · Umang Gupta · Ankush Chatterjee · Abhishek Mathur · Sneha Magapu

Reproducing Machine Learning Research on Binder

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510  
Demonstration – In Tue Demonstrations  
Jessica Forde · Tim Head · Chris Holdgraf · M Pacer · F?lix-Antoine Fortin · Fernando Perez

A machine learning environment to determine novel malaria policies

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D9  
Demonstration – In Tue Demonstrations  
Oliver Bent · Sekou L Remy · Nelson Bore

**A Hands-free Natural User Interface (NUI) for AR/VR Head-Mounted Displays Exploiting Wearer's Facial Gestures**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D7  
 Demonstration – In Tue Demonstrations  
 Jackwang Cha · Shihong Kim · Jinhyuk Kim

**Game for Detecting Backdoor Attacks on Deep Neural Networks using Activation Clustering**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D4  
 Demonstration – In Tue Demonstrations  
 Casey Dugan · Werner Geyer · Aabhas Sharma · Ingrid Lange · Dustin Ramsey Torres · Bryant Chen · Nathalie Baracaldo Angel · Heiko Ludwig

**Deep Neural Networks Running Onboard Anki's Robot, Vector**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D1  
 Demonstration – In Tue Demonstrations  
 Lorenzo Riano · Andrew Stein · Mark Palatucci

**TensorFlow Dance - Learning to Dance via Machine Learning**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510  
 Demonstration – In Tue Demonstrations  
 Yaz Santissi · Jonathan DEKHTIAR · Chintan Trivedi

**A model-agnostic web interface for interactive music composition by inpainting**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D8  
 Demonstration – In Tue Demonstrations  
 Ga'tan Hadjeres · Th'is Bazin · Ashis Pati

**TextWorld: A Learning Environment for Text-based Games**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D10  
 Demonstration – In Tue Demonstrations  
 Marc-Alexandre C't? · Wendy Tay · Eric Yuan

**Deep learning to improve quality control in pharmaceutical manufacturing**

Tue Dec 4th 10:45 AM – 07:30 PM @ Room 510 ABCD #D5  
 Demonstration – In Tue Demonstrations  
 Michael Sass Hansen · Sebastian Brandes Kraaijenzank

**Lunch on your own**

Tue Dec 4th 12:45 – 02:15 PM @  
 Break –

**Lunch on your own**

Tue Dec 4th 12:45 – 02:15 PM @  
 Break –

**Inclusion and Diversity Town Hall**

Tue Dec 4th 01:15 – 02:15 PM @ Room 517 CD  
 Break –

**What Bodies Think About: Bioelectric Computation Outside the Nervous System, Primitive Cognition, and Synthetic Morphology**

Tue Dec 4th 02:15 – 03:05 PM @ Rooms 220 CDE  
 Invited Talk – In Tue Invited Talk 2  
 Michael Levin

**Coffee Break**

Tue Dec 4th 03:05 – 03:30 PM @  
 Break –

## In Tue Track 1 – Session 2

**Tue Dec 4th 03:30 – 03:35 PM @ Room 220 CD – Tue Dec 4th 04:55 – 05:00 PM @ Room 220 CD**

**Neural Voice Cloning with a Few Samples**

Tue Dec 4th 03:30 – 03:35 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Sercan Arik · Jitong Chen · Kainan Peng · Wei Ping · Yanqi Zhou  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #91

**Answerer in Questioner's Mind: Information Theoretic Approach to Goal-Oriented Visual Dialog**

Tue Dec 4th 03:35 – 03:40 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Sang-Woo Lee · Yu-Jung Heo · Byoung-Tak Zhang  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #95

**Neural-Symbolic VQA: Disentangling Reasoning from Vision and Language Understanding**

Tue Dec 4th 03:40 – 03:45 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Kexin Yi · Jiajun Wu · Chuang Gan · Antonio Torralba · Pushmeet Kohli · Josh Tenenbaum  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #21

**Learning to Optimize Tensor Programs**

Tue Dec 4th 03:45 – 03:50 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Tianqi Chen · Lianmin Zheng · Eddie Yan · Ziheng Jiang · Thierry Moreau · Luis Ceze · Carlos Guestrin · Arvind Krishnamurthy  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #104

**Generalisation of structural knowledge in the hippocampal-entorhinal system**

Tue Dec 4th 03:50 – 04:05 PM @ Room 220 CD  
 Oral – In Tue Track 1 – Session 2  
 James Whittington · Timothy Muller · Shirely Mark · Caswell Barry · Tim Behrens  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #19

**A Likelihood-Free Inference Framework for Population Genetic Data using Exchangeable Neural Networks**

Tue Dec 4th 04:05 – 04:10 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Jeffrey Chan · Valerio Perrone · Jeffrey Spence · Paul Jenkins · Sara Mathieson · Yun Song  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #111

**Generalizing Tree Probability Estimation via Bayesian Networks**

Tue Dec 4th 04:10 – 04:15 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Cheng Zhang · Frederick A Matsen IV  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #123

**Geometry Based Data Generation**

Tue Dec 4th 04:15 – 04:20 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Ofir Lindenbaum · Jay Stanley · Guy Wolf · Smita Krishnaswamy  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #121

**Point process latent variable models of larval zebrafish behavior**

Tue Dec 4th 04:20 – 04:25 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Anuj Sharma · Robert Johnson · Florian Engert · Scott Linderman  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB

**A probabilistic population code based on neural samples**

Tue Dec 4th 04:25 – 04:40 PM @ Room 220 CD  
 Oral – In Tue Track 1 – Session 2  
 Sabyasachi Shivkumar · Richard Lange · Ankani Chattoraj · Ralf Haefner  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #26

**Sparse Attentive Backtracking: Temporal Credit Assignment Through Reminding**

Tue Dec 4th 04:40 – 04:45 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Nan Rosemary Ke · Anirudh Goyal ALIAS PARTH GOYAL · Olexa Bilaniuk · Jonathan Binas · Michael Mozer · Chris Pal · Yoshua Bengio  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #23

#### Learning Temporal Point Processes via Reinforcement Learning

Tue Dec 4th 04:45 – 04:50 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Shuang Li · Shuai Xiao · Shixiang Zhu · Nan Du · Yao Xie · Le Song  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #124

#### Precision and Recall for Time Series

Tue Dec 4th 04:50 – 04:55 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Nesime Tatbul · Tae Jun Lee · Stan Zdonik · Mejbah Alam · Justin Gottschlich  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #116

#### Bayesian Nonparametric Spectral Estimation

Tue Dec 4th 04:55 – 05:00 PM @ Room 220 CD  
 Spotlight – In Tue Track 1 – Session 2  
 Felipe Tobar  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #114

## In Tue Track 2 – Session 2

**Tue Dec 4th 03:30 – 03:35 PM @ Room 220 E – Tue Dec 4th 04:55 – 05:00 PM @ Room 220 E**

#### Evolved Policy Gradients

Tue Dec 4th 03:30 – 03:35 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Rein Houthoofd · Yuhua Chen · Phillip Isola · Bradly Stadie · Filip Wolski · OpenAI Jonathan Ho · Pieter Abbeel  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #16

#### Adapted Deep Embeddings: A Synthesis of Methods for k-Shot Inductive Transfer Learning

Tue Dec 4th 03:35 – 03:40 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Tyler Scott · Karl Ridgeway · Michael Mozer  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #167

#### Bayesian Model-Agnostic Meta-Learning

Tue Dec 4th 03:40 – 03:45 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Jaesik Yoon · Taesup Kim · Ousmane Dia · Sungwoong Kim · Yoshua Bengio · Sungjin Ahn  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #15

#### Probabilistic Neural Programmed Networks for Scene Generation

Tue Dec 4th 03:45 – 03:50 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Zhiwei Deng · Jiacheng Chen · YIFANG FU · Greg Mori  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #7

#### Neural Ordinary Differential Equations

Tue Dec 4th 03:50 – 04:05 PM @ Room 220 E  
 Oral – In Tue Track 2 – Session 2  
 Tian Qi Chen · Yulia Rubanova · Jesse Bettencourt · David Duvenaud  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #3

#### Bias and Generalization in Deep Generative Models: An Empirical Study

Tue Dec 4th 04:05 – 04:10 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Shengjia Zhao · Hongyu Ren · Arianna Yuan · Jiaming Song · Noah Goodman · Stefano Ermon  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #6

#### Robustness of conditional GANs to noisy labels

Tue Dec 4th 04:10 – 04:15 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Kiran Thekumparampil · Ashish Khetan · Zinan Lin · Sewoong Oh  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #5

#### BourGAN: Generative Networks with Metric Embeddings

Tue Dec 4th 04:15 – 04:20 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Chang Xiao · Peilin Zhong · Changxi Zheng  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #17

#### Loss Surfaces, Mode Connectivity, and Fast Ensembling of DNNs

Tue Dec 4th 04:20 – 04:25 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Timur Garipov · Pavel Izmailov · Dmitrii Podoprikin · Dmitry Vetrov · Andrew Wilson  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #162

#### How Does Batch Normalization Help Optimization?

Tue Dec 4th 04:25 – 04:40 PM @ Room 220 E  
 Oral – In Tue Track 2 – Session 2  
 Shibani Santurkar · Dimitris Tsipras · Andrew Ilyas · Aleksander Madry  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #10

#### Training Neural Networks Using Features Replay

Tue Dec 4th 04:40 – 04:45 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Zhouyuan Huo · Bin Gu · Heng Huang  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #12

#### Step Size Matters in Deep Learning

Tue Dec 4th 04:45 – 04:50 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Kamil Nar · Shankar Sastry  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #8

#### Neural Tangent Kernel: Convergence and Generalization in Neural Networks

Tue Dec 4th 04:50 – 04:55 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Arthur Jacot-Guillarmod · Clement Hongler · Franck Gabriel  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #9

#### Hierarchical Graph Representation Learning with Differentiable Pooling

Tue Dec 4th 04:55 – 05:00 PM @ Room 220 E  
 Spotlight – In Tue Track 2 – Session 2  
 Zhitao Ying · Jiaxuan You · Christopher Morris · Xiang Ren · Will Hamilton · Jure Leskovec  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #14

## In Tue Track 3 – Session 2

**Tue Dec 4th 03:30 – 03:35 PM @ Room 517 CD – Tue Dec 4th 04:55 – 05:00 PM @ Room 517 CD**

#### Differentially Private Testing of Identity and Closeness of Discrete Distributions

Tue Dec 4th 03:30 – 03:35 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Jayadev Acharya · Ziteng Sun · Huanyu Zhang  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #151

#### Local Differential Privacy for Evolving Data

Tue Dec 4th 03:35 – 03:40 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Matthew Joseph · Aaron Roth · Jonathan Ullman · Bo Waggoner  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #153

**Differentially Private k-Means with Constant Multiplicative Error**

Tue Dec 4th 03:40 – 03:45 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Uri Stemmer · Haim Kaplan  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #152

**A Spectral View of Adversarially Robust Features**

Tue Dec 4th 03:45 – 03:50 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Shivam Garg · Vatsal Sharan · Brian Zhang · Gregory Valiant  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #156

**Model-Agnostic Private Learning**

Tue Dec 4th 03:50 – 04:05 PM @ Room 517 CD  
 Oral – In Tue Track 3 – Session 2  
 Raef Bassily · Abhradeep Guha Thakurta · Om Dipakbhai Thakkar  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #30

**Bounded-Loss Private Prediction Markets**

Tue Dec 4th 04:05 – 04:10 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Rafael Frongillo · Bo Waggoner  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #28

**cpSGD: Communication-efficient and differentially-private distributed SGD**

Tue Dec 4th 04:10 – 04:15 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Naman Agarwal · Ananda Theertha Suresh · Felix Xinnan Yu · Sanjiv Kumar · Brendan McMahan  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #27

**Adversarially Robust Generalization Requires More Data**

Tue Dec 4th 04:15 – 04:20 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Ludwig Schmidt · Shibani Santurkar · Dimitris Tsipras · Kunal Talwar · Aleksander Madry  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #31

**Attacks Meet Interpretability: Attribute-steered Detection of Adversarial Samples**

Tue Dec 4th 04:20 – 04:25 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Guan hong Tao · Shiqing Ma · Yingqi Liu · Xiangyu Zhang  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #99

**Learning to Solve SMT Formulas**

Tue Dec 4th 04:25 – 04:40 PM @ Room 517 CD  
 Oral – In Tue Track 3 – Session 2  
 Mislav Balunovic · Pavol Bielik · Martin Vechev  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #105

**Towards Robust Detection of Adversarial Examples**

Tue Dec 4th 04:40 – 04:45 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Tianyu Pang · Chao Du · Yinpeng Dong · Jun Zhu  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #11

**Neural Architecture Search with Bayesian Optimisation and Optimal Transport**

Tue Dec 4th 04:45 – 04:50 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Kirthevasan Kandasamy · Willie Neiswanger · Jeff Schneider · Barnabas Poczos · Eric Xing  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #166

**Data-Driven Clustering via Parameterized Lloyd’s Families**

Tue Dec 4th 04:50 – 04:55 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Maria-Florina Balcan · Travis Dick · Colin White  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #160

**Supervising Unsupervised Learning**

Tue Dec 4th 04:55 – 05:00 PM @ Room 517 CD  
 Spotlight – In Tue Track 3 – Session 2  
 Vikas Garg · Adam Kalai  
 Poster Tue Dec 4th 05:00 – 07:00 PM @ Room 210 & 230 AB #164

# Wed Dec 5th

## Reproducible, Reusable, and Robust Reinforcement Learning

Wed Dec 5th 08:30 – 09:20 AM @ Rooms 220 CDE  
Invited Talk (Posner Lecture) – In Wed Invited Talk 1  
Joelle Pineau

## Coffee Break

Wed Dec 5th 09:20 – 09:45 AM @  
Break –

# In Wed Track 1 – Session 1

**Wed Dec 5th 09:45 – 09:50 AM @ Room 220 CD – Wed Dec 5th 10:40 – 10:45 AM @ Room 220 CD**

A Smoothed Analysis of the Greedy Algorithm for the Linear Contextual Bandit Problem

Wed Dec 5th 09:45 – 09:50 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Sampath Kannan · Jamie Morgenstern · Aaron Roth · Bo Waggoner · Zhiwei Steven Wu  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #159

Almost Optimal Algorithms for Linear Stochastic Bandits with Heavy-Tailed Payoffs

Wed Dec 5th 09:50 – 09:55 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Han Shao · Xiaotian Yu · Irwin King · Michael Lyu  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #158

## End-to-End Differentiable Physics for Learning and Control

Wed Dec 5th 09:55 – 10:00 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Filipe de Avila Belbute-Peres · Kevin Smith · Kelsey Allen · Josh Tenenbaum · J. Zico Kolter  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #38

Near Optimal Exploration-Exploitation in Non-Communicating Markov Decision Processes

Wed Dec 5th 10:00 – 10:05 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Ronan Fruit · Matteo Pirota · Alessandro Lazaric  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #161

## Exploration in Structured Reinforcement Learning

Wed Dec 5th 10:05 – 10:20 AM @ Room 220 CD  
Oral – In Wed Track 1 – Session 1  
Jungseul Ok · Alexandre Proutiere · Damianos Tranos  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #160

## Acceleration through Optimistic No-Regret Dynamics

Wed Dec 5th 10:20 – 10:25 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Jun-Kun Wang · Jacob Abernethy  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #156

## On Oracle-Efficient PAC RL with Rich Observations

Wed Dec 5th 10:25 – 10:30 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Christoph Dann · Nan Jiang · Akshay Krishnamurthy · Alekh Agarwal · John Langford · Robert Schapire  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #111

## Constant Regret, Generalized Mixability, and Mirror Descent

Wed Dec 5th 10:30 – 10:35 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Zakaria Mhammedi · Robert Williamson  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #96

## Efficient Online Portfolio with Logarithmic Regret

Wed Dec 5th 10:35 – 10:40 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Haipeng Luo · Chen-Yu Wei · Kai Zheng  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #157

## Solving Large Sequential Games with the Excessive Gap Technique

Wed Dec 5th 10:40 – 10:45 AM @ Room 220 CD  
Spotlight – In Wed Track 1 – Session 1  
Christian Kroer · Gabriele Farina · Tuomas Sandholm  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #77

# In Wed Track 2 – Session 1

**Wed Dec 5th 09:45 – 09:50 AM @ Room 220 E – Wed Dec 5th 10:40 – 10:45 AM @ Room 220 E**

Deep Network for the Integrated 3D Sensing of Multiple People in Natural Images

Wed Dec 5th 09:45 – 09:50 AM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 1  
Andrei Zanfir · Elisabeta Marinoiu · Mihai Zanfir · Alin-Ionut Popa · Cristian Sminchisescu  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #120

Delta-encoder: an effective sample synthesis method for few-shot object recognition

Wed Dec 5th 09:50 – 09:55 AM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 1  
Eli Schwartz · Leonid Karlinsky · Joseph Shtok · Sivan Harary · Mattias Marder · Abhishek Kumar · Rogerio Feris · Raja Giryes · Alex Bronstein  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #25

Text-Adaptive Generative Adversarial Networks: Manipulating Images with Natural Language

Wed Dec 5th 09:55 – 10:00 AM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 1  
Seonghyeon Nam · Yunji Kim · Seon Joo Kim  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #126

## Neighbourhood Consensus Networks

Wed Dec 5th 10:00 – 10:05 AM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 1  
Ignacio Rocco · Mircea Cimpoi · Relja Arandjelovi? · Akihiko Torii · Tomas Pajdla · Josef Sivic  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #118

## Visual Memory for Robust Path Following

Wed Dec 5th 10:05 – 10:20 AM @ Room 220 E  
Oral – In Wed Track 2 – Session 1  
Ashish Kumar · Saurabh Gupta · David Fouhey · Sergey Levine · Jitendra Malik  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #122

## Recurrent Transformer Networks for Semantic Correspondence

Wed Dec 5th 10:20 – 10:25 AM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 1  
Seungryong Kim · Stephen Lin · SANG RYUL JEON · Dongbo Min · Kwanghoon Sohn  
Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #119

**Sequential Attend, Infer, Repeat: Generative Modelling of Moving Objects**

Wed Dec 5th 10:25 – 10:30 AM @ Room 220 E  
 Spotlight – In Wed Track 2 – Session 1  
 Adam Kosioerek · Hyunjik Kim · Yee Whye Teh · Ingmar Posner  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #24

**Sanity Checks for Saliency Maps**

Wed Dec 5th 10:30 – 10:35 AM @ Room 220 E  
 Spotlight – In Wed Track 2 – Session 1  
 Julius Adebayo · Justin Gilmer · Michael Muelly · Ian Goodfellow · Moritz Hardt · Been Kim  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #30

**A Probabilistic U-Net for Segmentation of Ambiguous Images**

Wed Dec 5th 10:35 – 10:40 AM @ Room 220 E  
 Spotlight – In Wed Track 2 – Session 1  
 Simon Kohl · Bernardino Romera-Paredes · Clemens Meyer · Jeffrey De Fauw · Joseph R. Ledsam · Klaus Maier-Hein · S. M. Ali Eslami · Danilo Jimenez Rezende · Olaf Ronneberger  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #127

**Virtual Class Enhanced Discriminative Embedding Learning**

Wed Dec 5th 10:40 – 10:45 AM @ Room 220 E  
 Spotlight – In Wed Track 2 – Session 1  
 Binghui Chen · Weihong Deng · Haifeng Shen  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #130

## In Wed Track 3 – Session 1

**Wed Dec 5th 09:45 – 09:50 AM @ Room 517 CD – Wed Dec 5th 10:40 – 10:45 AM @ Room 517 CD**

Revisiting  $\epsilon$ -\$\gamma\$-\$\tau\$-similarity learning for domain adaptation

Wed Dec 5th 09:45 – 09:50 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Sofiane Dhoub · Ievgen Redko  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #152

**Leveraged volume sampling for linear regression**

Wed Dec 5th 09:50 – 09:55 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Michal Dereziński · Manfred Warmuth · Daniel Hsu  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #151

**Synthesize Policies for Transfer and Adaptation across Tasks and Environments**

Wed Dec 5th 09:55 – 10:00 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Hexiang Hu · Liyu Chen · Boqing Gong · Fei Sha  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #155

**Sublinear Time Low-Rank Approximation of Distance Matrices**

Wed Dec 5th 10:00 – 10:05 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Ainesh Bakshi · David Woodruff  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #150

**Nearly tight sample complexity bounds for learning mixtures of Gaussians via sample compression schemes**

Wed Dec 5th 10:05 – 10:20 AM @ Room 517 CD  
 Oral – In Wed Track 3 – Session 1  
 Hassan Ashtiani · Shai Ben-David · Nick Harvey · Christopher Liaw · Abbas Mehrabian · Yaniv Plan  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #100

**Minimax Statistical Learning with Wasserstein distances**

Wed Dec 5th 10:20 – 10:25 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Jaeho Lee · Maxim Raginsky  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #86

**Generalization Bounds for Uniformly Stable Algorithms**

Wed Dec 5th 10:25 – 10:30 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Vitaly Feldman · Jan Vondrak  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #85

**A loss framework for calibrated anomaly detection**

Wed Dec 5th 10:30 – 10:35 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Aditya Menon · Robert Williamson  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #110

**Sharp Bounds for Generalized Uniformity Testing**

Wed Dec 5th 10:35 – 10:40 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Ilias Diakonikolas · Daniel M. Kane · Alistair Stewart  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #92

**Convex Elicitation of Continuous Properties**

Wed Dec 5th 10:40 – 10:45 AM @ Room 517 CD  
 Spotlight – In Wed Track 3 – Session 1  
 Jessica Finocchiaro · Rafael Frongillo  
 Poster Wed Dec 5th 10:45 AM – 12:45 PM @ Room 210 & 230 AB  
 #73

## In Wed Demonstrations

**Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D7 – Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D6**

**Multi-Word Imputation and Sentence Expansion**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D7  
 Demonstration – In Wed Demonstrations  
 Osman Ramadan · Douglas Orr · Dmitry Stratiychuk · B?ej Czap

**Automatic Curriculum Generation Applied to Teaching Novices a Short Bach Piano Segment**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D10  
 Demonstration – In Wed Demonstrations  
 Emma Brunskill · Tong Mu · Karan Goel · Jonathan Bragg

**Riesznets: Accurate Real-Time 2D/3D Image Super-Resolution**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D4  
 Demonstration – In Wed Demonstrations  
 Saarthak Sachdeva · Mohnish Chakravarti

**Autonomous robotic manipulation with a desktop research platform**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D8  
 Demonstration – In Wed Demonstrations  
 Jonathan Long · Brandon Pereira · Max Reynolds · Rahul Rawat

**Play Imperfect Information Games against Neural Networks**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D3  
 Demonstration – In Wed Demonstrations  
 Andy C Kitchen · Michela Benedetti · Hon Weng Chong

**PatentAI: IP Infringement Detection with Enhanced Paraphrase Identification**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510  
 Demonstration – In Wed Demonstrations  
 Youssef Drissi · Karthikeyan Natesan Ramamurthy · Prasanna Sattigeri

**BigBlueBot: A Demonstration of How to Detect Egregious Conversations with Chatbots**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D1  
 Demonstration – In Wed Demonstrations  
 Casey Dugan · Justin D Weisz · Narendra Nath Joshi · Ingrid Lange · J Johnson · Mohit Jain · Werner Geyer

**Perception, sensing, motion planning and robot control using AI for automated feeding of upper-extremity mobility impaired people**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D2  
 Demonstration – In Wed Demonstrations  
 Tapomayukh Bhattacharjee · Daniel Gallenberger · David Dubois · Siddhartha Srinivasa · Louis L'écuyer-Lapierre

**A Cooperative Visually Grounded Dialogue Game with a Humanoid Robot**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D9  
 Demonstration – In Wed Demonstrations  
 Jordan Prince Tremblay · Ismael Balafrej · Felix Labelle · F?lix Martel-Denis · Eric Matte · Julien Chouinard-Beaupré · Adam Le-tourneau · Antoine Mercier-Nicol · Simon Brodeur · François Ferland · Jean ROUAT

**Deep Reinforcement Learning for Online Order Dispatching and Driver Repositioning in Ride-sharing**

Wed Dec 5th 10:45 AM – 07:30 PM @ Room 510 ABCD #D6  
 Demonstration – In Wed Demonstrations  
 Zhiwei Qin · Xiaocheng Tang · Yan Jiao · Chenxi Wang

**Investigations into the Human-AI Trust Phenomenon**

Wed Dec 5th 02:15 – 03:05 PM @ Rooms 220 CDE  
 Invited Talk – In Wed Invited Talk 2  
 Ayanna Howard

**Coffee Break**

Wed Dec 5th 03:05 – 03:30 PM @  
 Break –

## In Wed Track 1 – Session 2

**Wed Dec 5th 03:30 – 03:35 PM @ Room 220 CD – Wed Dec 5th 04:55 – 05:00 PM @ Room 220 CD**

**Breaking the Curse of Horizon: Infinite-Horizon Off-Policy Estimation**

Wed Dec 5th 03:30 – 03:35 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Qiang Liu · Lihong Li · Ziyang Tang · Dengyong Zhou  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #121

**Graph Convolutional Policy Network for Goal-Directed Molecular Graph Generation**

Wed Dec 5th 03:35 – 03:40 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Jiaxuan You · Bowen Liu · Zhitaoying · Vijay Pande · Jure Leskovec  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #140

**Memory Augmented Policy Optimization for Program Synthesis and Semantic Parsing**

Wed Dec 5th 03:40 – 03:45 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Chen Liang · Mohammad Norouzi · Jonathan Berant · Quoc V Le · Ni Lao  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #137

**Meta-Reinforcement Learning of Structured Exploration Strategies**

Wed Dec 5th 03:45 – 03:50 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Abhishek Gupta · Russell Mendonca · YuXuan Liu · Pieter Abbeel · Sergey Levine  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #134

**Policy Optimization via Importance Sampling**

Wed Dec 5th 03:50 – 04:05 PM @ Room 220 CD  
 Oral – In Wed Track 1 – Session 2  
 Alberto Maria Metelli · Matteo Papini · Francesco Faccio · Marcello Restelli  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #109

**A Bayesian Approach to Generative Adversarial Imitation Learning**

Wed Dec 5th 04:05 – 04:10 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Wonseok Jeon · Seokin Seo · Kee-Eung Kim  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #129

**Visual Reinforcement Learning with Imagined Goals**

Wed Dec 5th 04:10 – 04:15 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Ashvin Nair · Vitchyr Pong · Murtaza Dalal · Shikhar Bahl · Steven Lin · Sergey Levine  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #141

**Randomized Prior Functions for Deep Reinforcement Learning**

Wed Dec 5th 04:15 – 04:20 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Ian Osband · John Aslanides · Albin Cassirer  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #154

**Playing hard exploration games by watching YouTube**

Wed Dec 5th 04:20 – 04:25 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Yusuf Aytar · Tobias Pfaff · David Budden · Thomas Paine · Ziyu Wang · Nando de Freitas  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #142

**Recurrent World Models Facilitate Policy Evolution**

Wed Dec 5th 04:25 – 04:40 PM @ Room 220 CD  
 Oral – In Wed Track 1 – Session 2  
 David Ha · Jürgen Schmidhuber  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #65

**Reducing Network Agnostophobia**

Wed Dec 5th 04:40 – 04:45 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Akshay Raj Dhamija · Manuel G?nther · Terrance Boulton  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #100

**Life-Long Disentangled Representation Learning with Cross-Domain Latent Homologies**

Wed Dec 5th 04:45 – 04:50 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Alessandro Achille · Tom Eccles · Loic Matthey · Chris Burgess · Nicholas Watters · Alexander Lerchner · Irina Higgins  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #101

**Geometrically Coupled Monte Carlo Sampling**

Wed Dec 5th 04:50 – 04:55 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Mark Rowland · Krzysztof Choromanski · François Chalus · Aldo Pacchiano · Tamas Sarlos · Richard E Turner · Adrian Weller  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #97

**Scalable Laplacian K-modes**

Wed Dec 5th 04:55 – 05:00 PM @ Room 220 CD  
 Spotlight – In Wed Track 1 – Session 2  
 Imtiaz Ziko · Eric Granger · Ismail Ben Ayed  
 Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #96



## In Wed Track 2 – Session 2

**Wed Dec 5th 03:30 – 03:35 PM @ Room 220 E – Wed Dec 5th 04:55 – 05:00 PM @ Room 220 E**

**Dynamic Network Model from Partial Observations**

Wed Dec 5th 03:30 – 03:35 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Elahe Ghalebi · Baharan Mirzasoleiman · Radu Grosu · Jure Leskovec  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #7

**Stochastic Nonparametric Event-Tensor Decomposition**

Wed Dec 5th 03:35 – 03:40 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Shandian Zhe · Yishuai Du  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #12

**On GANs and GMMs**

Wed Dec 5th 03:40 – 03:45 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Eitan Richardson · Yair Weiss  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #59

**GILBO: One Metric to Measure Them All**

Wed Dec 5th 03:45 – 03:50 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Alexander Alemi · Ian Fischer  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #57

**Isolating Sources of Disentanglement in Variational Autoencoders**

Wed Dec 5th 03:50 – 04:05 PM @ Room 220 E  
Oral – In Wed Track 2 – Session 2  
Tian Qi Chen · Xuechen Li · Roger Grosse · David Duvenaud  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #58

**Sparse Covariance Modeling in High Dimensions with Gaussian Processes**

Wed Dec 5th 04:05 – 04:10 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Rui Li · Kishan KC · Feng Cui · Justin Domke · Anne Haake  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #18

**Efficient High Dimensional Bayesian Optimization with Additivity and Quadrature Fourier Features**

Wed Dec 5th 04:10 – 04:15 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Mojmir Mutny · Andreas Krause  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #23

**Regret bounds for meta Bayesian optimization with an unknown Gaussian process prior**

Wed Dec 5th 04:15 – 04:20 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Zi Wang · Beomjoon Kim · Leslie Kaelbling  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #22

**Adversarially Robust Optimization with Gaussian Processes**

Wed Dec 5th 04:20 – 04:25 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Ilija Bogunovic · Jonathan Scarlett · Stefanie Jegelka · Volkan Cevher  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #24

**Approximate Knowledge Compilation by Online Collapsed Importance Sampling**

Wed Dec 5th 04:25 – 04:40 PM @ Room 220 E  
Oral – In Wed Track 2 – Session 2  
Tal Friedman · Guy Van den Broeck  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #5

**DAGs with NO TEARS: Continuous Optimization for Structure Learning**

Wed Dec 5th 04:40 – 04:45 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Xun Zheng · Bryon Aragam · Pradeep Ravikumar · Eric Xing  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #9

**Proximal Graphical Event Models**

Wed Dec 5th 04:45 – 04:50 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Debarun Bhattacharjya · Dharmashankar Subramanian · Tian Gao  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #6

**Heterogeneous Multi-output Gaussian Process Prediction**

Wed Dec 5th 04:50 – 04:55 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Pablo Moreno-Muñoz · Antonio Artés · Mauricio Ibarra  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #14

**GPyTorch: Blackbox Matrix-Matrix Gaussian Process Inference with GPU Acceleration**

Wed Dec 5th 04:55 – 05:00 PM @ Room 220 E  
Spotlight – In Wed Track 2 – Session 2  
Jacob Gardner · Geoff Pleiss · Kilian Weinberger · David Bindel · Andrew Wilson  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #13

## In Wed Track 3 – Session 2

**Wed Dec 5th 03:30 – 03:35 PM @ Room 517 CD – Wed Dec 5th 04:55 – 05:00 PM @ Room 517 CD**

**The Nearest Neighbor Information Estimator is Adaptively Near Minimax Rate-Optimal**

Wed Dec 5th 03:30 – 03:35 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Jiantao Jiao · Weihao Gao · Yanjun Han  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #86

**Contextual Stochastic Block Models**

Wed Dec 5th 03:35 – 03:40 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Yash Deshpande · Subhabrata Sen · Andrea Montanari · Elchanan Mossel  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #79

**Entropy Rate Estimation for Markov Chains with Large State Space**

Wed Dec 5th 03:40 – 03:45 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Yanjun Han · Jiantao Jiao · Chuan-Zheng Lee · Tsachy Weissman · Yihong Wu · Tiancheng Yu  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #82

**Blind Deconvolutional Phase Retrieval via Convex Programming**

Wed Dec 5th 03:45 – 03:50 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Ali Ahmed · Alireza Aghasi · Paul Hand  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #81

**Stochastic Cubic Regularization for Fast Nonconvex Optimization**

Wed Dec 5th 03:50 – 04:05 PM @ Room 517 CD  
Oral – In Wed Track 3 – Session 2  
Nilesh Tripuraneni · Mitchell Stern · Chi Jin · Jeffrey Regier · Michael Jordan  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #42

**Stochastic Nested Variance Reduced Gradient Descent for Nonconvex Optimization**

Wed Dec 5th 04:05 – 04:10 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Dongruo Zhou · Pan Xu · Quanquan Gu  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #44

**On the Local Minima of the Empirical Risk**

Wed Dec 5th 04:10 – 04:15 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Chi Jin · Lydia T. Liu · Rong Ge · Michael Jordan  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #43

**How Much Restricted Isometry is Needed In Nonconvex Matrix Recovery?**

Wed Dec 5th 04:15 – 04:20 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Richard Zhang · Cedric Jozz · Somayeh Sojoudi · Javad Lavaei  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #46

**SPIDER: Near-Optimal Non-Convex Optimization via Stochastic Path-Integrated Differential Estimator**

Wed Dec 5th 04:20 – 04:25 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Cong Fang · Chris Junchi Li · Zhouchen Lin · Tong Zhang  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #49

**Analysis of Krylov Subspace Solutions of Regularized Non-Convex Quadratic Problems**

Wed Dec 5th 04:25 – 04:40 PM @ Room 517 CD  
Oral – In Wed Track 3 – Session 2  
Yair Carmon · John Duchi  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #48

**Natasha 2: Faster Non-Convex Optimization Than SGD**

Wed Dec 5th 04:40 – 04:45 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Zeyuan Allen-Zhu  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #50

**Escaping Saddle Points in Constrained Optimization**

Wed Dec 5th 04:45 – 04:50 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Aryan Mokhtari · Asuman Ozdaglar · Ali Jadbabaie  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #47

**On Coresets for Logistic Regression**

Wed Dec 5th 04:50 – 04:55 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Alexander Munteanu · Chris Schwiengelshohn · Christian Sohler · David Woodruff  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #77

**Legendre Decomposition for Tensors**

Wed Dec 5th 04:55 – 05:00 PM @ Room 517 CD  
Spotlight – In Wed Track 3 – Session 2  
Mahito Sugiyama · Hiroyuki Nakahara · Koji Tsuda  
Poster Wed Dec 5th 05:00 – 07:00 PM @ Room 210 & 230 AB #92

## Thu Dec 6th

**Making Algorithms Trustworthy: What Can Statistical Science Contribute to Transparency, Explanation and Validation?**

Thu Dec 6th 08:30 – 09:20 AM @ Rooms 220 CDE  
Invited Talk (Breiman Lecture) – In Thu Invited Talk 1  
David Spiegelhalter

Coffee Break

Thu Dec 6th 09:20 – 09:45 AM @  
Break –

## In Thu Track 1 – Session 1

**Thu Dec 6th 09:45 – 09:50 AM @ Room 220 CD – Thu Dec 6th 10:40 – 10:45 AM @ Room 220 CD**

**Learning with SGD and Random Features**

Thu Dec 6th 09:45 – 09:50 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Luigi Carratino · Alessandro Rudi · Lorenzo Rosasco  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #127

**KONG: Kernels for ordered-neighborhood graphs**

Thu Dec 6th 09:50 – 09:55 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Moez Draief · Konstantin Kutzkov · Kevin Scaman · Milan Vojnovic  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #122

**Quadrature-based features for kernel approximation**

Thu Dec 6th 09:55 – 10:00 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Marina Munkhoeva · Yermek Kapushev · Evgeny Burnaev · Ivan Oseledets  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #130

**Statistical and Computational Trade-Offs in Kernel K-Means**

Thu Dec 6th 10:00 – 10:05 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Daniele Calandriello · Lorenzo Rosasco  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #129

**Integrated accounts of behavioral and neuroimaging data using flexible recurrent neural network models**

Thu Dec 6th 10:05 – 10:20 AM @ Room 220 CD  
Oral – In Thu Track 1 – Session 1  
Amir Dezfouli · Richard Morris · Fabio Ramos · Peter Dayan · Bernard Balleine  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #102

**Why Is My Classifier Discriminatory?**

Thu Dec 6th 10:20 – 10:25 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Irene Chen · Fredrik Johansson · David Sontag  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #120

**Human-in-the-Loop Interpretability Prior**

Thu Dec 6th 10:25 – 10:30 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Isaac Lage · Andrew Ross · Samuel J Gershman · Been Kim · Finale Doshi-Velez  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #119

**Link Prediction Based on Graph Neural Networks**

Thu Dec 6th 10:30 – 10:35 AM @ Room 220 CD

Spotlight – In Thu Track 1 – Session 1  
Muhan Zhang · Yixin Chen  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #121

**Realistic Evaluation of Deep Semi-Supervised Learning Algorithms**

Thu Dec 6th 10:35 – 10:40 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Avital Oliver · Augustus Odena · Colin A Raffel · Ekin Dogus Cubuk · Ian Goodfellow  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #95

**Automatic differentiation in ML: Where we are and where we should be going**

Thu Dec 6th 10:40 – 10:45 AM @ Room 220 CD  
Spotlight – In Thu Track 1 – Session 1  
Bart van Merriënboer · Olivier Breuleux · Arnaud Bergeron · Pascal Lamblin  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #94

## In Thu Track 2 – Session 1

**Thu Dec 6th 09:45 – 09:50 AM @ Room 220 E – Thu Dec 6th 10:40 – 10:45 AM @ Room 220 E**

**Graphical model inference: Sequential Monte Carlo meets deterministic approximations**

Thu Dec 6th 09:45 – 09:50 AM @ Room 220 E  
Spotlight – In Thu Track 2 – Session 1  
Fredrik Lindsten · Jouni Helske · Matti Vihola  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #51

**Boosting Black Box Variational Inference**

Thu Dec 6th 09:50 – 09:55 AM @ Room 220 E  
Spotlight – In Thu Track 2 – Session 1  
Francesco Locatello · Gideon Dresdner · Rajiv Khanna · Isabel Valera · Gunnar Raetsch  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #38

**Discretely Relaxing Continuous Variables for tractable Variational Inference**

Thu Dec 6th 09:55 – 10:00 AM @ Room 220 E  
Spotlight – In Thu Track 2 – Session 1  
Trefor Evans · Prasanth Nair  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #39

**Implicit Reparameterization Gradients**

Thu Dec 6th 10:00 – 10:05 AM @ Room 220 E  
Spotlight – In Thu Track 2 – Session 1  
Mikhail Figurnov · Shakir Mohamed · Andriy Mnih  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #33

**Variational Inference with Tail-adaptive f-Divergence**

Thu Dec 6th 10:05 – 10:20 AM @ Room 220 E  
Oral – In Thu Track 2 – Session 1  
Dilin Wang · Hao Liu · Qiang Liu  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #37

**Mirrored Langevin Dynamics**

Thu Dec 6th 10:20 – 10:25 AM @ Room 220 E  
Spotlight – In Thu Track 2 – Session 1  
Ya-Ping Hsieh · Ali Kavis · Paul Rolland · Volkan Cevher  
Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #43

**Global Convergence of Langevin Dynamics Based Algorithms for Nonconvex Optimization**

Thu Dec 6th 10:25 – 10:30 AM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 1  
 Pan Xu · Jinghui Chen · Difan Zou · Quanquan Gu  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #46

Identification and Estimation of Causal Effects from Dependent Data

Thu Dec 6th 10:30 – 10:35 AM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 1  
 Eli Sherman · Ilya Shpitser  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #13

Causal Inference via Kernel Deviance Measures

Thu Dec 6th 10:35 – 10:40 AM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 1  
 Jovana Mitrovic · Dino Sejdicinovic · Yee Whye Teh  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #9

Removing Hidden Confounding by Experimental Grounding

Thu Dec 6th 10:40 – 10:45 AM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 1  
 Nathan Kallus · Aahlad Manas Puli · Uri Shalit  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #2

## In Thu Track 3 – Session 1

Thu Dec 6th 09:45 – 09:50 AM @ Room 517 CD – Thu Dec 6th 10:40 – 10:45 AM @ Room 517 CD

Boolean Decision Rules via Column Generation

Thu Dec 6th 09:45 – 09:50 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Sanjeeb Dash · Oktay Gunluk · Dennis Wei  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #79

Fast greedy algorithms for dictionary selection with generalized sparsity constraints

Thu Dec 6th 09:50 – 09:55 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Kaito Fujii · Tasuku Soma  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #78

Distributed  $k$ -Clustering for Data with Heavy Noise

Thu Dec 6th 09:55 – 10:00 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Shi Li · Xiangyu Guo  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #73

Do Less, Get More: Streaming Submodular Maximization with Subsampling

Thu Dec 6th 10:00 – 10:05 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Moran Feldman · Amin Karbasi · Ehsan Kazemi  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #75

Optimal Algorithms for Continuous Non-monotone Submodular and DR-Submodular Maximization

Thu Dec 6th 10:05 – 10:20 AM @ Room 517 CD  
 Oral – In Thu Track 3 – Session 1  
 Rad Niazadeh · Tim Roughgarden · Joshua Wang  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #76

Overlapping Clustering Models, and One (class) SVM to Bind Them All

Thu Dec 6th 10:20 – 10:25 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Xueyu Mao · Purnamrita Sarkar · Deepayan Chakrabarti  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #114

Removing the Feature Correlation Effect of Multiplicative Noise

Thu Dec 6th 10:25 – 10:30 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Zijun Zhang · Yining Zhang · Zongpeng Li  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #107

Connectionist Temporal Classification with Maximum Entropy Regularization

Thu Dec 6th 10:30 – 10:35 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Hu Liu · Sheng Jin · Changshui Zhang  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #106

Entropy and mutual information in models of deep neural networks

Thu Dec 6th 10:35 – 10:40 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Marylou Gabri? · Andre Manoel · Clément Luneau · jean barbier · Nicolas Macris · Florent Krzakala · Lenka Zdeborov?  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #110

The committee machine: Computational to statistical gaps in learning a two-layers neural network

Thu Dec 6th 10:40 – 10:45 AM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 1  
 Benjamin Aubin · Antoine Maillard · jean barbier · Florent Krzakala · Nicolas Macris · Lenka Zdeborov?  
 Poster Thu Dec 6th 10:45 AM – 12:45 PM @ Room 210 & 230 AB #111

Designing Computer Systems for Software 2.0

Thu Dec 6th 02:15 – 03:05 PM @ Rooms 220 CDE  
 Invited Talk – In Thu Invited Talk 2  
 Kunle Olukotun

Coffee Break

Thu Dec 6th 03:05 – 03:30 PM @  
 Break –

## In Thu Track 1 – Session 2

Thu Dec 6th 03:30 – 03:35 PM @ Room 220 CD – Thu Dec 6th 04:55 – 05:00 PM @ Room 220 CD

Robust Subspace Approximation in a Stream

Thu Dec 6th 03:30 – 03:35 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Roie Levin · Anish Prasad Sevekari · David Woodruff  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #48

Efficient nonmyopic batch active search

Thu Dec 6th 03:35 – 03:40 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Shali Jiang · Gustavo Malkomes · Matthew Abbott · Benjamin Moseley · Roman Garnett  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #131

Interactive Structure Learning with Structural Query-by-Committee

Thu Dec 6th 03:40 – 03:45 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Christopher Tosh · Sanjoy Dasgupta  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #130

Contour location via entropy reduction leveraging multiple information sources

Thu Dec 6th 03:45 – 03:50 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Alexandre Marques · Remi Lam · Karen Willcox  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #99

**Sample-Efficient Reinforcement Learning with Stochastic Ensemble Value Expansion**

Thu Dec 6th 03:50 – 04:05 PM @ Room 220 CD  
 Oral – In Thu Track 1 – Session 2  
 Jacob Buckman · Danijar Hafner · George Tucker · Eugene Brevdo · Honglak Lee  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #167

**Policy-Conditioned Uncertainty Sets for Robust Markov Decision Processes**

Thu Dec 6th 04:05 – 04:10 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Andrea Tirinzoni · Marek Petrik · Xiangli Chen · Brian Ziebart  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #168

**Learning convex bounds for linear quadratic control policy synthesis**

Thu Dec 6th 04:10 – 04:15 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Jack Umenberger · Thomas Sch?n  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #166

**Multiple-Step Greedy Policies in Approximate and Online Reinforcement Learning**

Thu Dec 6th 04:15 – 04:20 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Yonathan Efroni · Gal Dalal · Bruno Scherrer · Shie Mannor  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #164

**Deep Reinforcement Learning in a Handful of Trials using Probabilistic Dynamics Models**

Thu Dec 6th 04:20 – 04:25 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Kurtland Chua · Roberto Calandra · Rowan McAllister · Sergey Levine  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #165

**Non-delusional Q-learning and value-iteration**

Thu Dec 6th 04:25 – 04:40 PM @ Room 220 CD  
 Oral – In Thu Track 1 – Session 2  
 Tyler Lu · Dale Schuurmans · Craig Boutilier  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #162

**Bilevel learning of the Group Lasso structure**

Thu Dec 6th 04:40 – 04:45 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Jordan Frecon · Saverio Salzo · Massimiliano Pontil  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #92

**Binary Classification from Positive-Confidence Data**

Thu Dec 6th 04:45 – 04:50 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Takashi Ishida · Gang Niu · Masashi Sugiyama  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #97

**Fully Understanding The Hashing Trick**

Thu Dec 6th 04:50 – 04:55 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Lior Kamma · Casper B. Freksen · Kasper Green Larsen  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #90

**Support Recovery for Orthogonal Matching Pursuit: Upper and Lower bounds**

Thu Dec 6th 04:55 – 05:00 PM @ Room 220 CD  
 Spotlight – In Thu Track 1 – Session 2  
 Raghav Somani · Chirag Gupta · Prateek Jain · Praneeth Netrapalli  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #63

## In Thu Track 2 – Session 2

**Thu Dec 6th 03:30 – 03:35 PM @ Room 220 E – Thu Dec 6th 04:55 – 05:00 PM @ Room 220 E**

**Hyperbolic Neural Networks**

Thu Dec 6th 03:30 – 03:35 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Octavian Ganea · Gary Becigneul · Thomas Hofmann  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #29

**Norm matters: efficient and accurate normalization schemes in deep networks**

Thu Dec 6th 03:35 – 03:40 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Elad Hoffer · Ron Banner · Itay Golan · Daniel Soudry  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #27

**Constructing Fast Network through Deconstruction of Convolution**

Thu Dec 6th 03:40 – 03:45 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Yunho Jeon · Junmo Kim  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #22

**A Simple Unified Framework for Detecting Out-of-Distribution Samples and Adversarial Attacks**

Thu Dec 6th 03:45 – 03:50 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Kimin Lee · Kibok Lee · Honglak Lee · Jinwoo Shin  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #30

**Discovery of Latent 3D Keypoints via End-to-end Geometric Reasoning**

Thu Dec 6th 03:50 – 04:05 PM @ Room 220 E  
 Oral – In Thu Track 2 – Session 2  
 Supasorn Suwajanakorn · Noah Snaveley · Jonathan Tompson · Mohammad Norouzi  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #33

**Learning Libraries of Subroutines for Neurally{Guided Bayesian Program Induction**

Thu Dec 6th 04:05 – 04:10 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Kevin Ellis · Lucas Morales · Mathias Sabl?-Meyer · Armando Solar-Lezama · Josh Tenenbaum  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #24

**Learning Loop Invariants for Program Verification**

Thu Dec 6th 04:10 – 04:15 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Xujie Si · Hanjun Dai · Mukund Raghothaman · Mayur Naik · Le Song  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #23

**DeepProbLog: Neural Probabilistic Logic Programming**

Thu Dec 6th 04:15 – 04:20 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Robin Manhaeve · Sebastijan Dumancic · Angelika Kimmig · Thomas Demeester · Luc De Raedt  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #118

**Learning to Infer Graphics Programs from Hand-Drawn Images**

Thu Dec 6th 04:20 – 04:25 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Kevin Ellis · Daniel Ritchie · Armando Solar-Lezama · Josh Tenenbaum  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #25

**Learning to Reconstruct Shapes from Unseen Classes**

Thu Dec 6th 04:25 – 04:40 PM @ Room 220 E  
 Oral – In Thu Track 2 – Session 2  
 Xiuming Zhang · Zhoutong Zhang · Chengkai Zhang · Josh Tenenbaum · Bill Freeman · Jiajun Wu  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #34

**Improving Neural Program Synthesis with Inferred Execution Traces**

Thu Dec 6th 04:40 – 04:45 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Richard Shin · Illia Polosukhin · Dawn Song  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #31

**ResNet with one-neuron hidden layers is a Universal Approximator**

Thu Dec 6th 04:45 – 04:50 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Hongzhou Lin · Stefanie Jegelka  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #28

**Towards Understanding Learning Representations: To What Extent Do Different Neural Networks Learn the Same Representation**

Thu Dec 6th 04:50 – 04:55 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Liwei Wang · Lunjia Hu · Jiayuan Gu · Zhiqiang Hu · Yue Wu · Kun He · John Hopcroft  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #26

**Generalized Cross Entropy Loss for Training Deep Neural Networks with Noisy Labels**

Thu Dec 6th 04:55 – 05:00 PM @ Room 220 E  
 Spotlight – In Thu Track 2 – Session 2  
 Zhilu Zhang · Mert Sabuncu  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #101

## In Thu Track 3 – Session 2

**Thu Dec 6th 03:30 – 03:35 PM @ Room 517 CD – Thu Dec 6th 04:55 – 05:00 PM @ Room 517 CD**

**A Simple Proximal Stochastic Gradient Method for Nonsmooth Nonconvex Optimization**

Thu Dec 6th 03:30 – 03:35 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Zhize Li · Jian Li  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #5

**Stochastic Chebyshev Gradient Descent for Spectral Optimization**

Thu Dec 6th 03:35 – 03:40 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Insu Han · Haim Avron · Jinwoo Shin  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #6

**LAG: Lazily Aggregated Gradient for Communication-Efficient Distributed Learning**

Thu Dec 6th 03:40 – 03:45 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Tianyi Chen · Georgios Giannakis · Tao Sun · Wotao Yin  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #8

**Low-rank Interaction with Sparse Additive Effects Model for Large Data Frames**

Thu Dec 6th 03:45 – 03:50 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Genevieve Robin · Hoi-To Wai · Julie Josse · Olga Klopp · Eric Moulines  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #87

**Optimal Algorithms for Non-Smooth Distributed Optimization in Networks**

Thu Dec 6th 03:50 – 04:05 PM @ Room 517 CD  
 Oral – In Thu Track 3 – Session 2  
 Kevin Scaman · Francis Bach · Sebastien Bubeck · Laurent Massoulié · Yin Tat Lee  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #10

**Direct Runge-Kutta Discretization Achieves Acceleration**

Thu Dec 6th 04:05 – 04:10 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Jingzhao Zhang · Aryan Mokhtari · Suvrit Sra · Ali Jadbabaie  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #9

**Limited Memory Kelley’s Method Converges for Composite Convex and Submodular Objectives**

Thu Dec 6th 04:10 – 04:15 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Song Zhou · Swati Gupta · Madeleine Udell  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #16

**(Probably) Concave Graph Matching**

Thu Dec 6th 04:15 – 04:20 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Haggai Maron · Yaron Lipman  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #12

**Graph Oracle Models, Lower Bounds, and Gaps for Parallel Stochastic Optimization**

Thu Dec 6th 04:20 – 04:25 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Blake Woodworth · Jialei Wang · Adam Smith · Brendan McMahan · Nati Srebro  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #11

**Smoothed analysis of the low-rank approach for smooth semidefinite programs**

Thu Dec 6th 04:25 – 04:40 PM @ Room 517 CD  
 Oral – In Thu Track 3 – Session 2  
 Thomas Purnir · Samy Jelassi · Nicolas Boumal  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #3

**Wasserstein Distributionally Robust Kalman Filtering**

Thu Dec 6th 04:40 – 04:45 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Soroosh Shafieezadeh Abadeh · Viet Anh Nguyen · Daniel Kuhn · Peyman Mohajerin Esfahani  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #14

**Decentralize and Randomize: Faster Algorithm for Wasserstein Barycenters**

Thu Dec 6th 04:45 – 04:50 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Pavel Dvurechenskii · Darina Dvinskikh · Alexander Gasnikov · Cesar Uribe · Angelia Nedich  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #15

**Robust Hypothesis Testing Using Wasserstein Uncertainty Sets**

Thu Dec 6th 04:50 – 04:55 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 RUI GAO · Liyan Xie · Yao Xie · Huan Xu  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #2

**Convergence of Cubic Regularization for Nonconvex Optimization under KL Property**

Thu Dec 6th 04:55 – 05:00 PM @ Room 517 CD  
 Spotlight – In Thu Track 3 – Session 2  
 Yi Zhou · Zhe Wang · Yingbin Liang  
 Poster Thu Dec 6th 05:00 – 07:00 PM @ Room 210 & 230 AB #4