

| CONTINENTAL BREAKFAST & REGISTRATION – CONVOCATION ROOM | | | | | 10:00 – 10:30AM |
|---|---|--|---|---|--|
| AM SESSIONS TA-01 – TA-05 | | | | | |
| | TA-01 Room F004 Algorithmic Reinforcement Learning Organizer: Mengdi Wang – Princeton University | TA-02 Room F006 Learning and Optimization in Energy Systems Organizer: Yue Zhao – Stony Brook | TA-3 Room F008 Optimization, Learning, and Inference II Organizer: Yuxin Chen – Princeton University | TA-04 Room F108 Control & Scheduling | TA-05 Room F009 Communications and Networks I |
| 10:20AM – 10:40AM | Sample-Efficient Exploration in Reinforcement Learning with Function Approximation Nan Jiang | Unlocking Untapped Grid Assets by Learning Techniques: A Case Study on Residential Demand Response Qinran Hu, Yingying Li, Alison Su, Jun Shimada, Na Li | Hidden Integrality & Exponential Rates of Convex Relaxations for Learning Discrete Structures Yudong Chen | An ADMM Approach to Dynamic Sharing Problems Xuanyu Cao, K. J. Ray Liu | A Change-Detection Approach to Mobile Node Localization in Bounded Domains Alessio Fascista, Giovanni Ciccicarese, Angelo Coluccia, Giuseppe Ricci |
| 10:40AM – 11:00AM | Optimistic Posterior Sampling for Reinforcement Learning: Worst-Case Regret Bounds Shipra Agrawal | Localization of Forced Oscillations in the Power Grid Under Resonance Conditions Tong Huang, Nikolaos Freris, P.R. Kumar, Le Xie | Nearly Optimal Robust Subspace Tracking & Dynamic Robust PCA Praneeth Narayanamurthy, Namrata Vaswani | Exploiting Policy Structure for Solving MDPs with Large State Space Libin Liu, Arpan Chattopadhyay, Urbashi Mitra | Graph Algorithms for Preventing Cascading Failures in Networks Pei Duo YU, Chee Wei Tan, Hung Lin Fu |
| 11:00AM – 11:20AM | SBEED: Stable and Efficient Reinforcement Learning with Function Approximation Lihong Li | Deep Generative Learning for Renewables Scenario Generation Yize Chen, Pan Li, Baosen Zhang | Underdetermined Tensor Decomposition via Solving Quadratic Equations Piya Pal, Ali Koochakzadeh | Optimal Electric Vehicle Charging Scheduling with Time-Varying Profits Boyu Wang, Jing Yang | On the Interplay Between Edge Caching and HARQ in Fog-RAN Igor Stanojev, Osvaldo Simeone |
| 11:20AM – 11:40AM | Primal-Dual Pi Learning with State and Action Features Mengdi Wang | Voltage Analytics for Power Distribution Network Topology Verification Guido Cavraro, Vassilis Kekatos, Sriharsha Veeramachaneni | Nonconvex Sparse Blind Deconvolution: Geometry and Efficient Methods John Wright | Relative Degree of Interconnected SISO Nonlinear Control Systems W. Steven Gray, Subbarao Venkatesh Guggilam | |
| 11:40AM – 12:00PM | | Solar Energy Sharing in Net Metered Community Microgrids: Can the Social Goals be Achieved Yue Zhao | Achieving Statistical and Computational Efficiency for Quadratic Inverse Problems via Gradient Descent Yuejie Chi | | |
| PLENARY TALK: PRAMOD VISWANATH – ROOM F101 | | | | | 12:10PM – 1:10PM |

| CONTINENTAL BREAKFAST & REGISTRATION – CONVOCATION ROOM | | | | | | 10:00 – 10:30AM |
|---|--|---|--|--|---|--|
| AM SESSIONS TA-06 – TA-11 | | | | | | |
| | TA-06 Room F109 Statistical Estimation & Inference I | TA-07 Room F005 Optimal Communications with Discrete Input Signals Organizers: Alex Dytso, Mario Goldenbaum – Princeton University | TA-08 Room F007 Alignment Problems in Signal Processing, Statistics and Structural Biology Organizers: Tamir Bendory, Amit Singer – Princeton University | TA-09 Room F111 Optimization, Learning, Inference I Organizer: Yuxin Chen – Princeton University | TA-10 Room F112 Scheduling & Optimization I | TA-11 CS104 Scheduling & Optimization II |
| 10:20AM – 10:40AM | An Edge Exclusion Test for Graphical Modeling of Multivariate Time Series Jitendra Tugnait Kronecker | Capacity Approximation of Continuous Channels by Discrete Inputs Malcome Egan, Samir Perlaza | Image and Video Deblurring With and Without Frame Alignment Guillermo Sapiro | Distributed First-Order Non-Convex Optimization: Low-Complexity Bounds and an Optimal Proximal Primal-Dual Algorithm Mingyi Hong, Haoran Sun | | An Integer Linear Program for Mixed-Weight Open Locating-Dominating Sets Robin Givens, Rex Kincaid, Weizhen Mao, Gexin Yu |
| 10:40AM – 11:00AM | Compressed Sensing for Massive MIMO John Franklin, Brinton Cooper III Linearized Binary Regression Andrew Lan, Mung Chiang, Christoph Studer | Approaching Waterfilling Capacity of Parallel Channels by Higher Order Modulation and Probabilistic Amplitude Shaping Fabian Steiner, Georg Bechere and Patrick Schulte | Data-Driven Visual Correspondences in the Presence of Symmetry Qixing Huang | Learning Deep Models: Critical Points and Local Openess Meisam Razaviyayn | End-to-end Network Throughput Optimization Through Last-mile Diversity Ning Wu, Kevin Tang | Generic Network Cost Minimization: A Decentralized Newton's Method Xuanyu Cao, K. J. Ray Liu |
| 11:00AM – 11:20AM | Online Estimation for Finding a Near-Maximum Value in a Large List of Numerical Data Jonathan Stokes, Steven Weber | The MISO Free-Space Optical Channel at Low and Moderate SNR Stefan Moser, Ligong Wang, and Michèle Wigger | The Structure of Viruses from Experimental Data Dilano Sladin | Statistical Inference for Model Parameters with Stochastic Gradient Descent Xi Chen | Wireless Scheduling with Deadline and Power Constraints Yiqiu Liu, Xin Liu, Lei Ying, R. Srikant | Implementation of Rate-Adaptive Integer Forcing Compression in Distributed Wireless Relay Networking Jing Guo, Ahmed Ibrahim, Ameya Agaskar, David Love, Navid Yazdani |
| 11:20AM – 11:40AM | PhaseLin: Linear Phase Retrieval Ramina Ghods, Andrew Lan, Tom Goldstein, Christoph Studer | On Gaussian Mixture Noise Channels with Minimum and Peak Amplitude Constraints Mehul Motani, Zhengwei Ni | Orbit Recovery from Invariants Jon Weed | | Wireless Network Traffic Disaggregation Using Bayesian Nonparametric Techniques Gabriel Ford, Rebecca Cargan, Ali Ahmed, Kevin Rigney, Christopher Berry, Donald Bucci, Moshe Kam | Innovation, Cheating, and Whistleblowing – A Game Theoretic Perspective Soheil Eshghi, Leandros Tassiulas |
| 11:40AM – 12:00PM | | When Are Discrete Channel Inputs Optimal? - Optimization Techniques and Some New Results Alex Dytso, Mario Goldenbaum, H. Vincent Poor, and Shlomo Shamai | Multireference Alignment without Alignment Nicolas Boumal | | | |
| PLENARY TALK: PRAMOD VISWANATH – ROOM F101 | | | | | | |
| 12:10PM – 1:10PM | | | | | | |

| PM SESSIONS TP-01 – TP-05 | | | | | |
|---------------------------|--|--|---|--|--|
| | TP-01 Room F004 Information in Causal Estimation, Learning, and Control Organizer: Tara Javidi – UC San Diego | TP-02 Room F006 Human System Interaction Organizers: Cedric Langbort, V. Sriram Siddhardh Nadendla – UIUC, Vaibhav Srivastava – Michigan State, Naomi Leoard – Princeton University | TP-03 Room F007 Geometry & Information Theory Organizers: Thomas Courtade – Berkeley, Ayfer Ozgur – Stanford University | TP-04 Room F111 Theory and Bounds for IoT Security Organizers: Yanina Shkel- Princeton University, Rick Blum – Lehigh University | |
| 2:30PM – 2:50PM | Causal Rate-Distortion Function: Operational Meaning Victoria Kostina, Babak Hassibi | Building a Cooperator Alex Peysakhovich | The Geometry of Entropy Power Inequalities on the Integers Jae Oh Woo, Mokshay Madiman, Liyao Wang | Cache-Aided Combination Networks with Secrecy Guarantees Ahmed A. Zewail, Aylin Yener | |
| 2:50PM – 3:10PM | On the Separation of Estimation and Control in Hierarchical Control Systems with Communication Cost Mohammad Afshari, Jhelum Chakravorty, Aditya Mahajan | Modeling Psychophysical Interactions in a Smart World Arnold Glass, Narayan, Mandayam, H. Vincent Poor, Walid Saad | Functional Methods for Information Theoretic Converses Jingbo Liu | Private Information Retrieval with Partially Known Private Side Information Y.P. Wei, K. Banawan, Senur Ulukus | |
| 3:10PM – 3:30PM | Optimal Remote Estimation of Discrete Random Variables Over the Collision Channel Marcos M. Vasconcelos, Nuno C. Martins | Surprising Sequences for Communication and Conversation Ting-Yi Wu, Xiou Ge, Lav Varshney | Information Inequalities and Optimal Mass Transport Thomas Courtade | Learning Maximal Leakage Aaron Wagner, Ibrahim Issa | |
| BREAK | | | 3:30PM – 4:00PM | | |
| 4:00PM – 4:20PM | Reliable Streaming of a Source Over a Memoryless Channel with Feedback SungEn Chiu, Anusha Lalitha, Tara Javidi | Fragility of the Commons: The Game-Theoretic Impacts of Human Decision-Making on Robustness of Shared Systems Shreyas Sundaram, Ashish Ranjan Hota | The Geometry of the Relay Channel Ayfer Ozgur | Secure Lossless Compression Yanina Shkel, Rick Blum, H. Vincent Poor | |
| 4:20PM – 4:40PM | | Social Bayesian Decision Making Dhaval Adjodha, Peter Krafft, Alex Pentland, Yan Leng, Shi Kai Chong, Zheyuan Shi, Alejandro Noriega | Triangulation Codes: A Family of Non-Linear Codes with Graceful Degradation Hajir Roozbehani | | |
| 4:40PM – 5:00PM | | On Estimating Multi-Attribute Choice Preferences using Private Signals and Matrix Factorization Venkata Sriram Siddhardh Nadendla, Cédric Langbort, Vincent Poor, and Shlomo Shamai | | | |

| PM SESSIONS TP-06 – TP-10 | | | | | |
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| | TP-06 ROOM F109 Statistical Estimation & Inference II | TP-07 Room F005 IoT Inference Organizer: Visa Koivunen – Aalto University, Finland | TP-08 Room F008 Optimization, Learning, and Inference III Organizer: Yuxin Chen – Princeton University | TP-09 Room F108 Low Latency Communication Organizer: Albert Guillén i Fàbregas – Universitat Pompeu Fabra | TP-10 ROOM F009 Communication and Networks II |
| 2:30PM – 2:50PM | A Random-Signal Approach to Robust Radar Detection Angelo Coluccia, Giuseppe Ricci | On the Estimation and Secrecy Capabilities of Stochastic Encryption for Parameter Estimation in IoT Ananth Narayan Samudrala, Rick S. Blum | Recovering a Hidden Hamiltonian Cycle via Linear Programming with Applications to DNA Sequencing Jiaming Xu | Normal Approximations for Fading Channels Alejandro Lancho, Tobias Koch, Giuseppe Durisi | Blind Source Separation in the Physical Layer Alex Tait, Thomas Ferreira de Lima, Yechi Ma, Matthew Chang, Mitchell Nahmias, Bhavin Shastri, Prateek Mittal, Paul Prucnal |
| 2:50PM – 3:10PM | An Efficient Nonnegative Matrix Factorization Model for Finding Cancer Associated Genes by Integrating Data from Genome, Transcriptome and Interactome Jianing Xi, Ao Li, Minghui Wang | Attack Detection and Secure Estimation Under False Data Injection Attack in Cyber-Physical Systems Arpan Chattopadhyay, Urbashi Mitra | Low-Rank Approximation from via Partial Matrix Sampling: Assumption-Free Local Minimum Analysis and Applications in Memory-Efficient Kernel PCA Ji Chen, Xiaodong Li | Pilot-Assisted Short- Packet Transmission over Multiantenna Fading Channels: A 5G Case Study Guido Carlo Ferrante, Johan Östman, Giuseppe Durisi, Kittipong Kittichokechai | Event-Triggered Stabilization of Disturbed Linear Systems over Digital Channels Mohammad Javad Khojasteh, Mojtaba Hedayatpour, Jorge Cortes, Massimo Franceschetti |
| 3:10PM – 3:30PM | Clustering Under Composite Generative Models Tiexing Wang, Donald Bucci, Yingbin Liang, Biao Chen, Pramod Varshney | Communication Efficient Distributed Learning with Feature Partitioned Data Bingwen Zhang, Jun Geng, Weiyu Xu, Lifeng Lai | Nonconvex Low-Rank Matrix Recovery with Arbitrary Outliers via Median-Truncated Gradient Descent Yuejie Chi, Yuanxin Li, Huishuai Zhang, Yingbin Liang | Saddle-point Approximations of Lower and Upper Bounds to the Error Probability in Channel Coding Josep Font-Segura, Gonzalo Vazquez-Vilar, Alfonso Martinez, Albert Guillen i Fabregas, Alejandro Lancho | Joint Heterogeneous Statistical QoS/QoE Provisionings for Edge-Computing Based WiFi Offloading Over 5G Mobile Wireless Networks Xi Zhang, Jingqing Wang |
| BREAK 3:30PM – 4:00PM | | | | | |
| 4:00PM – 4:20PM | Parallel Decentralized Detection with Dependent Randomization Weiqiang Dong, Moshe Kam | Distributed Machine Learning in the Age of Cyber Attacks Zhixiong Yang, Waheed U. Bajwa | Matrix Completion with Deterministic Sampling Pattern – A Geometric Perspective Yao Xie, Alexander Shapiro, Rui Zhang | Finite Blocklength Bounds for the Arbitrarily-Varying Channel Oliver Kosut, Joerg Kliewer | Some (Non-)Universal Features of Web Robot Traffic Mahdiah Zabihimayvan, Derek Doran |
| 4:20PM – 4:40PM | | Sequential Estimation of Distributed Parameters in Networks Saurabh Sihag, Javad Heydari, Ali Tajer | Algorithmic Regularization in Over-Parameterized Matrix Recovery Yuanzhi Li, Tengyu Ma, Hongyang Zhang | Generative Adversarial Privacy: A Data-Driven Approach to Guaranteeing Privacy and Utility Chong Huang, Lalitha Sankar, Ram Rajagopal, Peter Kairouz, Xiao Chen | The Probability Density Function of SINR Loss of the Dominant Mode Rejection Beamformer Enlong Hu, Hongya Ge |
| 4:40PM – 5:00PM | | Nonparametric Distributed Detection Using Bootstrapping and Fisher's Method Topi Halme, Visa Koivunen, H. Vincent Poor | | | Variable-Rate Ultra-Reliable and Low-Latency Communication for Industrial Automation Rebal Jurdi, Saeed Reza Khosravirad, Harish Viswanathan |