

You-Lin Chen

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RESEARCH INTERESTS	High-dimensional statistics, Non-convex optimization, Stochastic and online optimization, Unsupervised representation learning, Dependent data analysis	
EDUCATION	The University of Chicago , Chicago, USA Ph.D. Candidate in Statistics Advisor: Mladen Kolar	Present
	National Tsing Hua University , Hsinchu, Taiwan Bachelor of Science in Electrical Engineering Minor in Mathematics. GPA: 3.64	Jun. 2014
EXPERIENCE	Summer intern, Cognitive Computing Lab, Baidu Research , Beijing, China	Jun. 2019 – Sep. 2019
	Research Assistant, Institute of Statistical Science, Academia Sinica , Taipei, Taiwan	May 2015 – Aug. 2016
RESEARCH PROJECTS	Vector Transport free Riemannian SARAH for Eigenproblems <ul style="list-style-type: none">Proposed a Riemannian solver using stochastic recursive gradient algorithm without additional computational costs such as parallel transport or vector transportProvided global convergence analysis in an inexact and mini-batch setting	Jun. 2015 – Sep. 2016
	Ratio Trace Formulation for Supervised and Unsupervised Wasserstein Discriminant Analysis <ul style="list-style-type: none">Proposed an eigensolver based method to compute the discriminative subspace of the Wasserstein Discriminant AnalysisCombined Wasserstein Discriminant Analysis with low-dimensional clustering techniques such as Kmeans to perform discriminative clusteringProvided convergent analysis for both supervised and unsupervised WDA under the Self-Consistent Field framework	Jun. 2015 – Sep. 2016
	Modeling High-Frequency Spatio-Temporal Data <ul style="list-style-type: none">Established Spatio-temporal models for hourly-observed pollutants data for 12 years in Taiwan	Jan. 2019 – Present
	Tensor Canonical Correlation Analysis <ul style="list-style-type: none">Provided theoretical-guarantee and scalable algorithms and effective initializationEstablished convergence results and error bounds for the inexact updating ruleApplied TCCA to genotype and gene expression data to recover population structure	May 2018 – Jan. 2019
	Robust Estimation of Covariance Matrices and Precision Matrices <ul style="list-style-type: none">Provided a Dantzig-type robust estimator for high-dimensional precision matrixUnder the weak condition only fourth moment exists, our estimators achieved the minimax convergence rates	Jul. 2017 – Dec. 2017
	Model Selection in High-Dimensional Nonlinear Models Using Orthogonal Matching Pursuit <ul style="list-style-type: none">Established a general convergence framework and bias-variance analysis of Orthogonal Matching Pursuit for high-dimensional M-estimationNumerical experiments in generalized linear models showed superior performance than other high-dimensional methods such as L1 penaltyProposed high dimensional information criterion for selecting the best stopping iteration and achieving minimax convergence rateProved high dimensional information criterion can achieve model selection consistency under strong sparsity	May 2015 – Aug. 2017
RELEVANT COURSES	Machine Learning and Computation: An Introduction to the Theory of Machine Learning, Machine Learning, Convex Optimization, Matrix Computation, Scientific Computing, Partial Differential Equations and Numerical Methods, Data Structures	
	Math and Statistics: Brownian Motion and Stochastic Calculus, Advanced Statistical Inference, Theoretical Probability, Mathematical Statistics, Bayesian Analysis, Real Analysis, Advanced Linear Algebra	
SKILLS	Python, R, MATLAB, Julia, C++, Pytorch	