



Project Posters and Reports, Fall 2017

Projects this year both explored theoretical aspects of machine learning (such as in optimization and reinforcement learning) and applied techniques such as support vector machines and deep neural networks to diverse applications such as detecting diseases, analyzing rap music, inspecting blockchains, presidential tweets, voice transfer, ...



Weakly Supervised Classifiers with Adversarial Training

Physical Sciences

Sanha Cheong

[\[report\]](#) [\[poster\]](#)



Characterizing Data-Driven Disease Phenotypes in Mental Health

Life Sciences

Scott Lanyon Fleming

[\[report\]](#) [\[poster\]](#)



Bikeshare demand prediction

Other / General Machine Learning

Zhaonan Qu

[\[report\]](#) [\[poster\]](#)



Predicting Grocery Sales with Deep Residual Nets and Embedding

Finance & Commerce

Alexia Xu

[\[report\]](#) [\[poster\]](#)

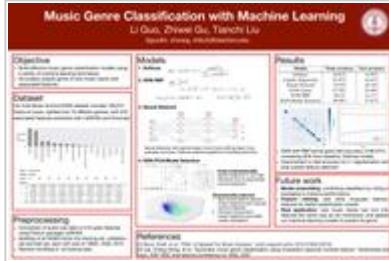


DeepFire - AI Synthesized Rap

Audio & Music

Justin Dieter, Jonathan Zwiebel, Alp Turhan Ozturk

[\[report\]](#) [\[poster\]](#)

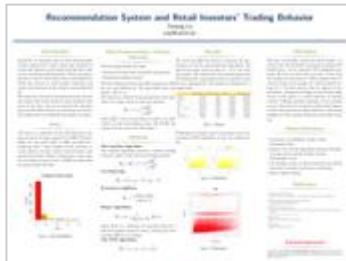


Music Genre Classification via Machine Learning

Audio & Music

Zhiwei Gu, Li Guo, tianchi liu

[\[report\]](#) [\[poster\]](#)



Recommendation System and Retail Investors' Trading Behavior

General Machine Learning

Yueyang Liu

[\[report\]](#) [\[poster\]](#)



Automated Curriculum Learning

Other / General Machine Learning

Nimit Sohoni, Rahul Sunil Palamuttam, Halwest Mohammad

[\[report\]](#) [\[poster\]](#)

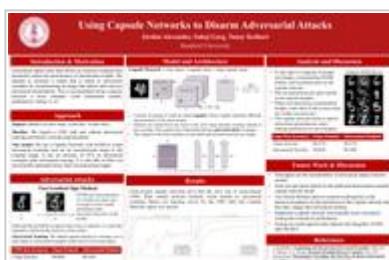


Identification of the correct hard-scatter vertex at the Large Hadron Collider

Physical Sciences

Pratik Kumar, Neel Mani Singh

[\[report\]](#) [\[poster\]](#)

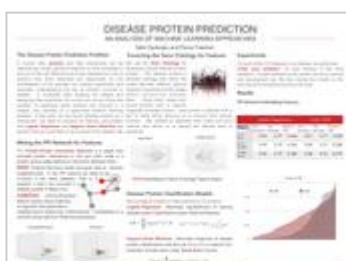


Using Capsule Networks to Disarm Adversarial Attacks

Computer Vision

Tanay Nilesh Kothari, Sahaj Garg, Jordan Alexander

[\[report\]](#) [\[poster\]](#)



Disease Protein Prediction using Network Embeddings and the Gene Ontology

Life Sciences

E. Sabri Eyuboglu, Pierce Barrett Freeman

[\[report\]](#) [\[poster\]](#)



Understanding City Demographics from Local Business Activity

Other / General Machine Learning

Vincent Chen, Dan Xiaoyu Yu

[\[report\]](#) [\[poster\]](#)

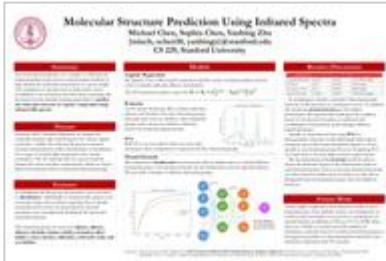


Using Bitcoin Pricing Data to Create a Profitable Algorithmic Trading Strategy

Finance & Commerce

Dhruv Medarametla, Justin Xu

[\[report\]](#) [\[poster\]](#)

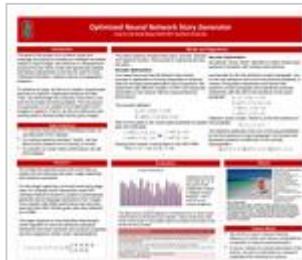


Machine Learning Prediction of Molecular Structure Given Corresponding Spectra

Physical Sciences

Sophia Chen, Yanbing Zhu, Michael Chen

[\[report\]](#) [\[poster\]](#)

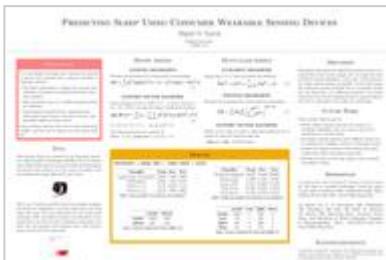


Optimized Recurrent Neural Network Story Generator

General Machine Learning

Cong Ye, David Dachun Wang

[\[report\]](#) [\[poster\]](#)

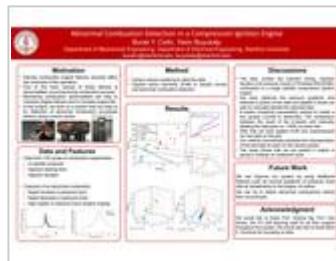


Sleep Prediction Using Consumer Wearable Devices

Athletics & Sensing Devices

Miguel Garcia

[\[report\]](#) [\[poster\]](#)

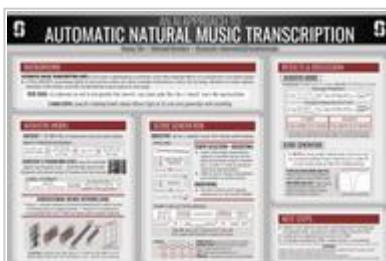


Abnormal Combustion Detection in a Compression Ignition Engine

Other / General Machine Learning

Yasin Buyukalp, Burak Yunus Cetin

[\[report\]](#) [\[poster\]](#)

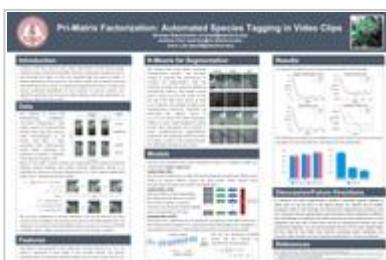


An AI Approach to Automatic Natural Music Transcription

Audio & Music

Karey Shi, Michael Bereket

[\[report\]](#) [\[poster\]](#)



Pri-Matrix Factorization: Automated Species Tagging in Video Clips

Computer Vision

Niranjan Balachandar, Jiwoo Lee, Andrew Chen

[\[report\]](#) [\[poster\]](#)

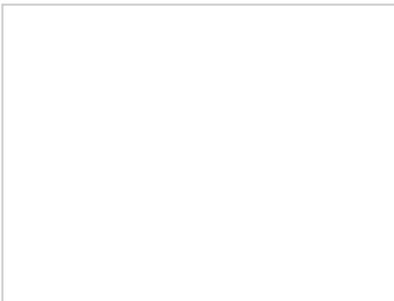


Extracting Tactics from Cybersecurity Articles

Natural Language

Jakub Smola

[\[report\]](#) [\[poster\]](#)

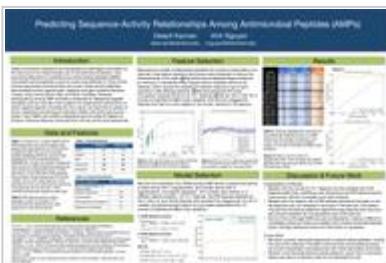


Unsupervised Face Recognition in Television News Media

Computer Vision

Cherry Zou, Matthew Sun, Anirudh Jain

[\[report\]](#) —

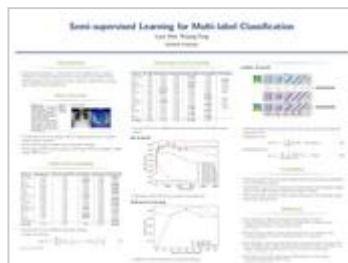


Predicting Sequence-Activity Relationships Among Antimicrobial Peptides (AMPs)

Life Sciences

Deepti Kannan, Vinh Quang Nguyen

[\[report\]](#) [\[poster\]](#)



Semi-supervised Learning for Multi-label Classification

Computer Vision

Liyue Shen, Ruiyang Song

[\[report\]](#) [\[poster\]](#)



Finding Sarcasm in Reddit Postings: A Deep Learning Approach

Natural Language

Ruchir Shah, Nick Naixuan Guo

[\[report\]](#) [\[poster\]](#)



Fake News Detection

Natural Language

Ayush Singhania, Devyani Choudhary, Sohan Mone

[\[report\]](#) [\[poster\]](#)

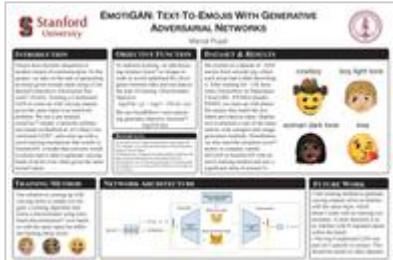


Predicting Diabetes Readmittance

Life Sciences

Christina Ashley Pan, Charlie Xu, Stephon Christian

[\[report\]](#) [\[poster\]](#)

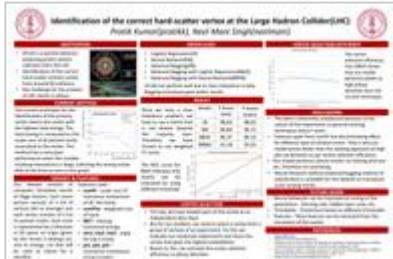


EmotiGAN

Computer Vision

Marcel A Puyat

[\[report\]](#) [\[poster\]](#)

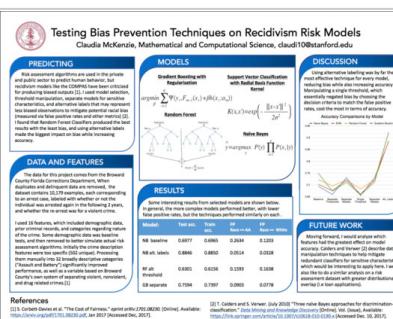


Identification of the correct hard-scatter vertex at the Large Hadron Collider

Physical Sciences

Pratik Kumar, Neel Mani Singh

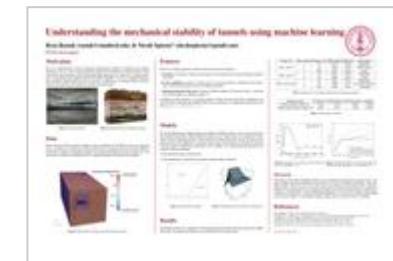
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Questions of Bias and Fairness in Using Machine learning for risk assessment

Claudia McKenzie

[\[report\]](#) [\[poster\]](#)



Understanding the mechanical stability of wellbores using machine learning

Physical Sciences

Reza Rastak

[\[report\]](#) [\[poster\]](#)



Deep Imitation Learning for Playing Real Time Strategy Games

Computer Vision

Jeffrey James Barratt, Chuanbo Pan

[\[report\]](#) [\[poster\]](#)



Time Series Sales Forecasting

Finance & Commerce

James Juin Pao, Danielle Sullivan

[\[report\]](#) [\[poster\]](#)

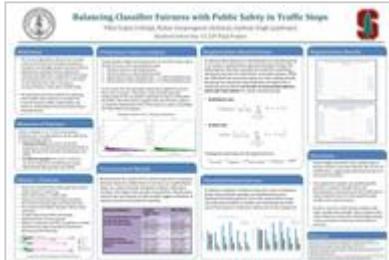


Predicting Restaurants' Rating and Popularity based on Yelp Dataset

Finance & Commerce

Anran Lu, Yiwen Guo, Zeyu Wang

[\[report\]](#) [\[poster\]](#)



Balancing Classifier Fairness with Public Safety in Traffic Stops

Other / General Machine Learning

Jaydeep Singh, Kuhan Jeyapragasan, Vikul Gupta

[\[report\]](#) [\[poster\]](#)



Using Convolutional Embeddings of Large Graphs to Improve Category Classification for Amazon Items

Other / General Machine Learning

Joseph Lee, Yaqing Li, Fengjiao Lyu

[\[report\]](#) [\[poster\]](#)

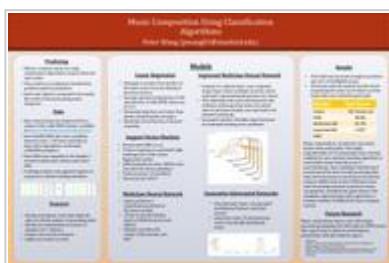


Predicting CS106 Office Hours Queuing Times

Other / General Machine Learning

Brahm Kapoor, Michael Andreas Trout, Nick Troccoli

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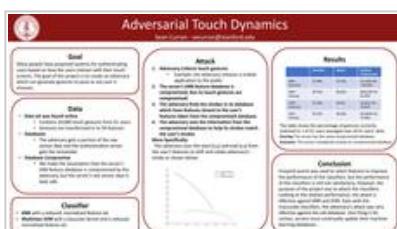


Music Composition Using Classification Algorithms

Audio & Music

Peter Wang

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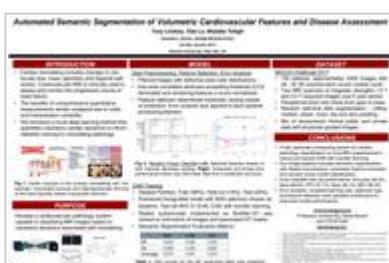


Adversarial Touch Dynamics

Other / General Machine Learning

Sean Patrick Curran

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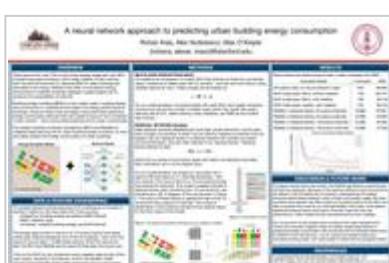


Automated Semantic Segmentation of Volumetric Cardiovascular Features and Disease Assessment

Life Sciences

Tony Lindsey, Shaw Lu, Mojtaba Tefagh

[\[report\]](#) [\[poster\]](#)

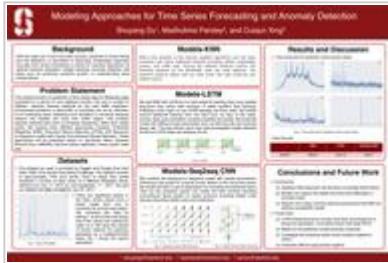


A neural network approach for predicting urban building energy consumption

Life Sciences

Alex Nutkiewicz, Rohan Aras, Max O'Krepki

[\[report\]](#) [\[poster\]](#)

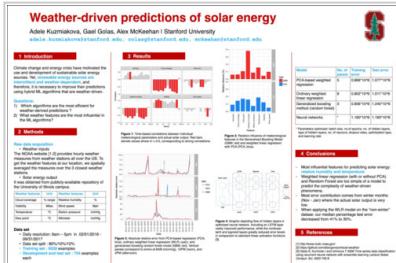


Modeling approaches for time series forecasting and anomaly detection

Other / General Machine Learning

Madhu Pandey, Shuyang Du, Carrie Xing

[\[report\]](#) [\[poster\]](#)



Weather-driven predictions of solar energy

Physical Sciences

Adele Kuzmiakova, Gael Gurvan Colas, Alex McKeehan

[\[report\]](#) [\[poster\]](#)



Old Image De-noising and Auto-colorization Using Linear Regression and Multilayer Perceptron Models

Computer Vision

Junkyo Suh, Aravindh Kumar, Koosha Nazif

[\[report\]](#) [\[poster\]](#)



Real-time Image Style Transfer

Computer Vision

Zhaoyou Wang, Zhaoheng Guo, Sophia Lu

[\[report\]](#) [\[poster\]](#)



Cardiovascular disease prediction: a novel risk stratification tool

Life Sciences

Stelios Serghiou

[\[report\]](#) [\[poster\]](#)



Predictive Analytics for Demand forecasting in Retail

Finance & Commerce

Shuyu Mao, Shravan Surineni

[\[report\]](#) [\[poster\]](#)

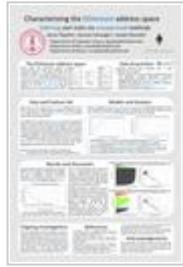


Forage: Machine Learning Generated Recipes

Natural Language

Brian Zhang, Angelica Willis, Elbert Lin

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Clustering the Ethereum Blockchain Address Space

Finance & Commerce

Jack Payette, Samuel Roland Schwager, Joseph Murphy

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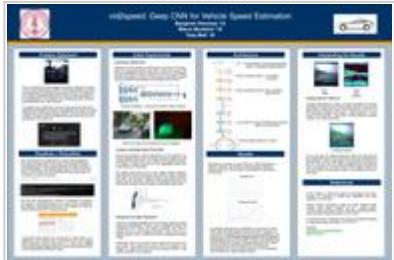


Deep Learning Approach to Accent Recognition

Audio & Music

Edmund Mok, Leon An Sheng Mak

[\[report\]](#) [\[poster\]](#)

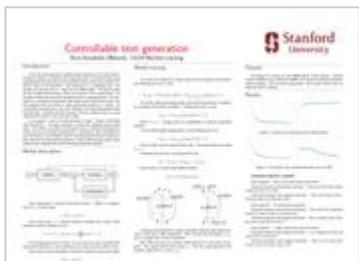


Vid2speed

Computer Vision

Ben Penchas, Tobin Bell, Marco Antonio Ximenes Rego Monteiro

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Controllable text generation

Natural Language

Boris Borisovich Kovalenko

[\[report\]](#) [\[poster\]](#)



Automated identification of crystal system from XRD pattern

Physical Sciences

Rohit Prasanna

[\[report\]](#) [\[poster\]](#)



Learning the Language of Wine

Natural Language

David Tagliamonti, Aaron Effron, Alyssa Ferris

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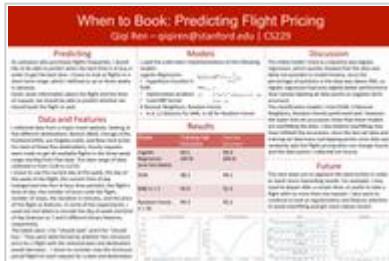


Building Effective Goal-Oriented Dialogue Agents

Natural Language

Derek Chen

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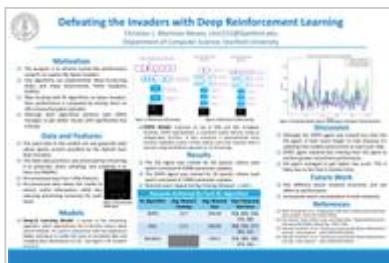


When to Book: Predicting Flight Pricing

Finance & Commerce

Qiqi Ren

[\[report\]](#) [\[poster\]](#)

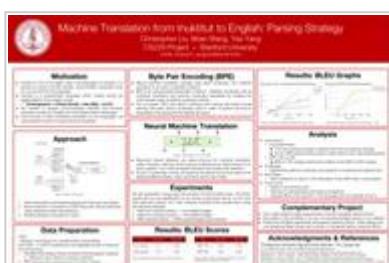


Defeating the Invaders with Deep Reinforcement Learning

Theory & Reinforcement Learning

Christian Lamar Martinez Nieves

[\[report\]](#) [\[poster\]](#)



Machine Translation from Inuktitut to English: Parsing Strategy

Natural Language

Christopher Liu, Brian Wang, Yao Yang

[\[report\]](#) [\[poster\]](#)

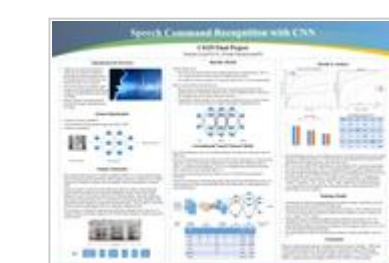


Generating Groove: Predicting Jazz Harmonization

General Machine Learning

Nicholas Bien, Lincoln Valdez

[\[report\]](#) [\[poster\]](#)

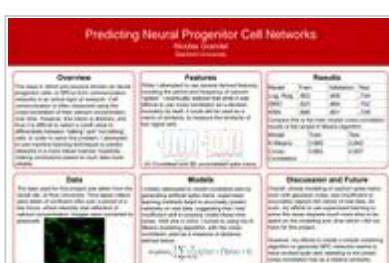


Voice Commands Recognition with Convolution Neural Network

Audio & Music

Zixuan Zhou, Xuejiao Li

[\[report\]](#) [\[poster\]](#)

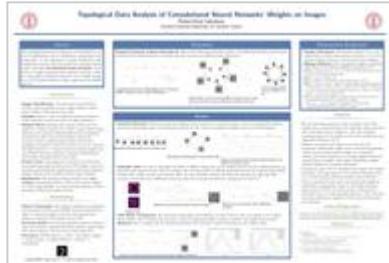


Predicting Cellular Networks

Life Sciences

Cole Edward Grandel

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Topological data analysis of convolutional neural networks' weights on images

Computer Vision

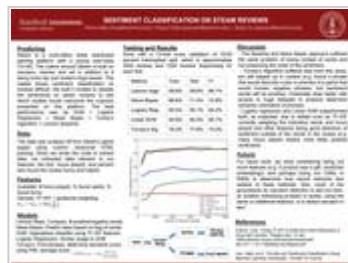
Rickard Bertil Bruel Gabrielsson

[\[report\]](#) [\[poster\]](#)

Predicting Insurance Risk in Brazil

Finance & Commerce

Laura Zhang, Dixee Kimball, Matthew Millican

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Sentiment Classification on Steam Reviews

Natural Language

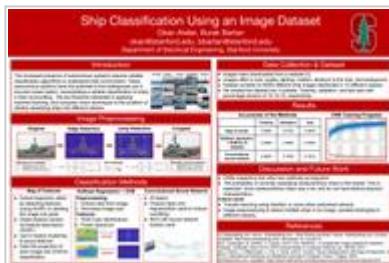
Rohan Bais, Seyla Ou, Pascal Aringo Odek

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Fake News Stance Detection

Natural Language

Xiaowei Wu, Sizhu Cheng, Zixian Chai

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Ship Classification Using an Image Dataset

Computer Vision

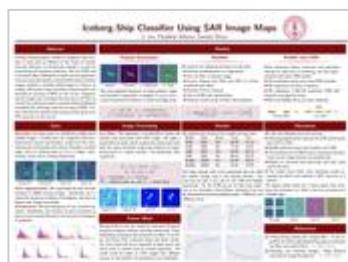
Burak Bartan, Okan Atalar

[\[report\]](#) [\[poster\]](#)

Rise and Fall: An Autoregressive Approach to Pairs Trading

General Machine Learning

Bora Uyumaztuk, Vasco Portilheiro

[\[report\]](#) [\[poster\]](#)

Iceberg/ship classifier using satellite data

Computer Vision

Jun Li, Atharva Parulekar, Dhruv Samant

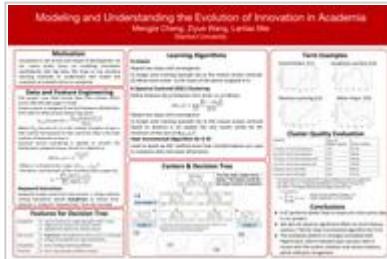
[\[report\]](#) [\[poster\]](#)



Multilabel Tagging System for Yelp Restaurant

Computer Vision
Haomin Peng, Boning Huang, Yiqing Ding

[\[report\]](#) [\[poster\]](#)



Modeling and Understanding the evolution of innovation in academia

Finance & Commerce
Magie Cheng, Aiden Wang, Lantao Mei

[\[report\]](#) [\[poster\]](#)



Direction Decoder for Brain Computer Interfaces

Life Sciences
Jinhie Skarda, Sean Metzger

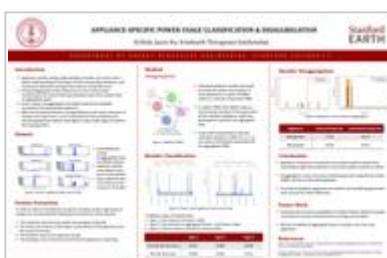
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Reproduce and Explore Variations of SNAPSHOT ENSEMBLES

Theory & Reinforcement Learning
Jiyang Li, Jin Xi

[\[report\]](#) [\[poster\]](#)



Appliance Specific Power Usage Classification & Disaggregation

Physical Sciences
Srinikaeth Thirugnana sambandam, Ejeong Baik, Jason Hu

[\[report\]](#) [\[poster\]](#)



Automatic Melody Transcription

Audio & Music
Bingbin Liu, Laetitia Shaw, Xiaoyan Wu

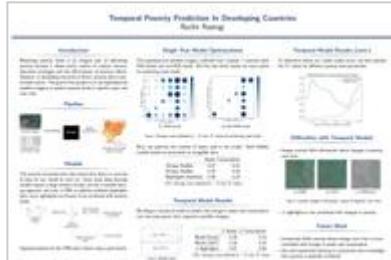
[\[report\]](#) [\[poster\]](#)



Deep Reinforcement Learning for Games with Sparse Rewards

Theory & Reinforcement Learning
Akhila Yerukola, Ashwini Pokle, Megha Jhunjhunwala

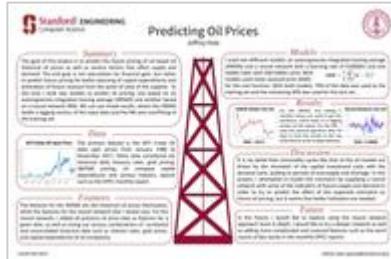
[\[report\]](#) [\[poster\]](#)



Temporal Poverty Prediction in Developing Countries Using Satellite Imagery

Computer Vision

Ruchir Rastogi

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Predicting Oil Prices

Finance & Commerce

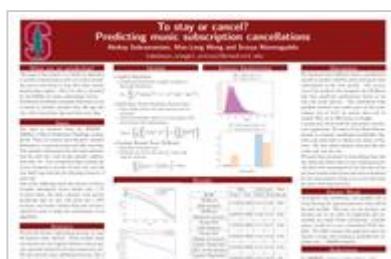
Jeffrey Paul Hale

[\[report\]](#) [\[poster\]](#)

Predicting Ethereum Price Changes

Finance & Commerce

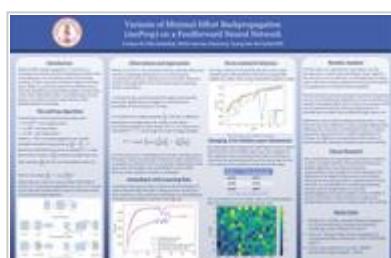
Mila Schultz, Matthew Ian Walter Chen, Neha Narwal

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To stay or not to stay? Predicting music subscription cancellations

Audio & Music

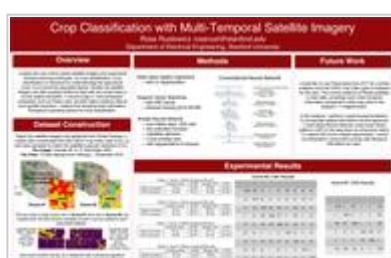
Akshay Subramaniam, Man Long Wong, Sravya Nimmagadda

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Applying Minimal Effort Backpropagation to Sparsify Different Neural Networks

Other / General Machine Learning

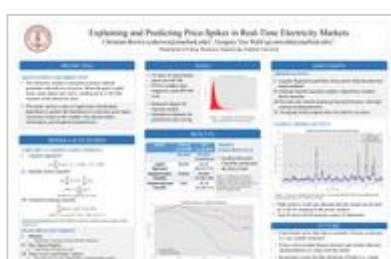
Nithin Kannan, Enrique De Alba, Eric Kim

[\[report\]](#) [\[poster\]](#)

Crop Classification with Multi-Temporal Satellite Imagery

Life Sciences

Rose Marie Rustowicz

[\[report\]](#) [\[poster\]](#)

Explaining and Predicting Price-Spikes in Real-Time Electricity Markets

Finance & Commerce

Christian Brown, Greg Alan Von Wald

[\[report\]](#) [\[poster\]](#)

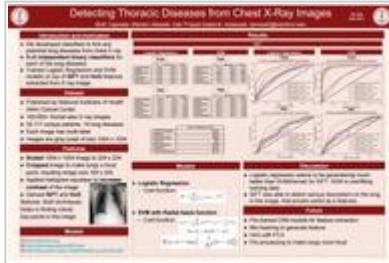


What does change in US food prices tell us about the economics of the food market from 2002 to 2006?

Finance & Commerce

Wanyi Li

[\[report\]](#) [\[poster\]](#)



Detecting Thoracic Diseases from Chest X-Ray Images

Life Sciences

Mariam Adel Y A Alawadi, Binit Topiwala, Hari Prasad

[\[report\]](#) [\[poster\]](#)

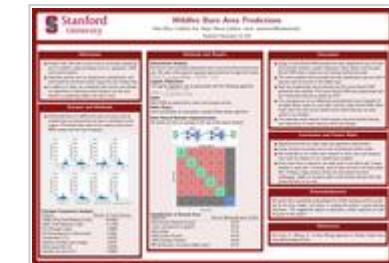


Real Time Tennis Match Prediction Using Machine Learning

Athletics & Sensing Devices

Yi Zhong, Yang "Eddie" Chen, Yubo Tian

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Wildfire Prediction

Physical Sciences

Rysen Otomo, Cuthbert Sun, Eliza Klyce

[\[report\]](#) [\[poster\]](#)

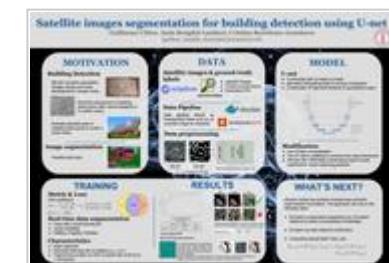


Subject Measures Prediction from Human fMRI Imaging

Life Sciences

Zhijie Chen

[\[report\]](#) [\[poster\]](#)



Satellite images segmentation for building detection using U-net

Computer Vision

Guillaume Chhor, Ianis Bougdal-Lambert, Cristian Bartolome Aramburu

[\[report\]](#) [\[poster\]](#)

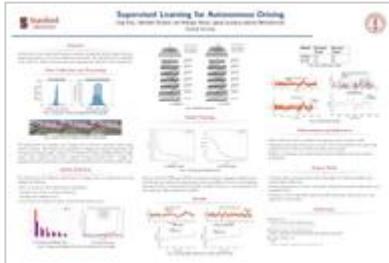


From Zero to Hero with F-Zero

Theory & Reinforcement Learning

Stephanie Wang, Michael Brennan

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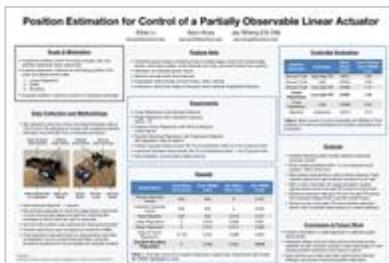


Supervised Learning for Autonomous Driving

Computer Vision

Greg Katz, Abhishek Roushan, Abhijeet Shenoi

[\[report\]](#) [\[poster\]](#)



Position Estimation for Control of a Partially Observable Linear Actuator

Athletics & Sensing Devices

Ethan Li, Arjun Arora

[\[report\]](#) [\[poster\]](#)

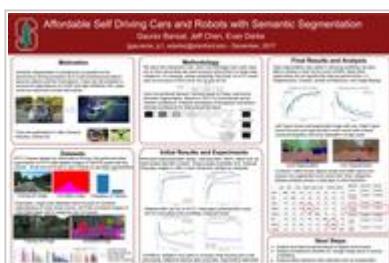


Translating a Picture of Math to LaTeX

Computer Vision

Adam Jensen, Henrik Marklund

[\[report\]](#) [\[poster\]](#)

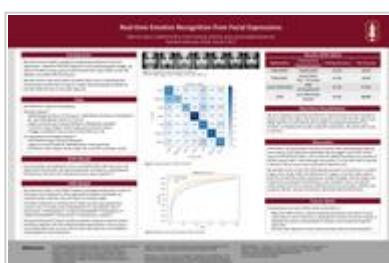


Affordable Self Driving Cars and Robots with Pixel by Pixel Segmentation

Computer Vision

Jeff Bojun Chen, Gaurav Bansal, Evan Darke

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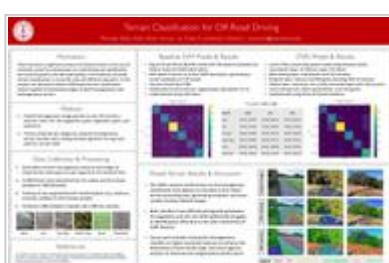


Real-time Emotion Recognition From Facial Expressions

Computer Vision

Minh-An Quinn, Gui Reis, Grant Sivesind

[\[report\]](#) [\[poster\]](#)

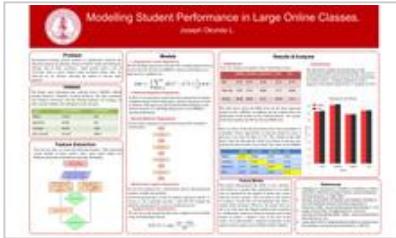


Terrain Classification for Off-Road Driving

Computer Vision

Kelly Shen, Simon Pierre Marie Le Cleac'h, Michael Kelly

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Modelling Student Performance in Massive Online Classes.

Other / General Machine Learning

Joseph Likhuna Okonda

[\[report\]](#) [\[poster\]](#)



Visual question answering with attention

Computer Vision

Juanita Ordóñez

[\[report\]](#) [\[poster\]](#)

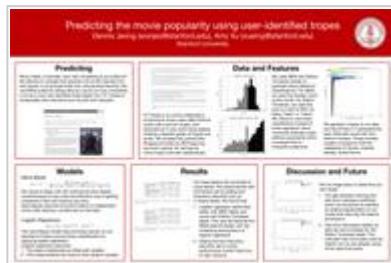


Exploring Predictors of Team Success in Ultimate Frisbee: An Analysis of Game Statistics for Stanford Women's Ultimate

Athletics & Sensing Devices

Caitlin Go

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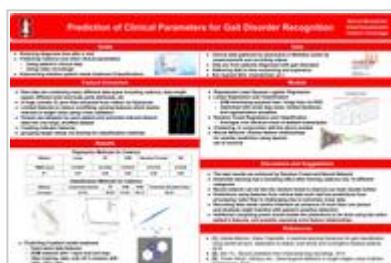


Predicting the movie popularity using user-identified tropes

Other / General Machine Learning

Dennis Jeong, Amy Jin Xu

[\[report\]](#) [\[poster\]](#)

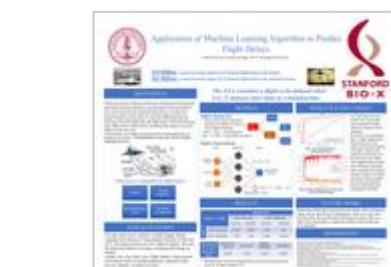


Predicting Clinical Parameters For Recognition Of Gait Disorder

Other / General Machine Learning

Mehrad Moradshahi, Soheil Esmaeilzadeh, Ouassim Khebzegga

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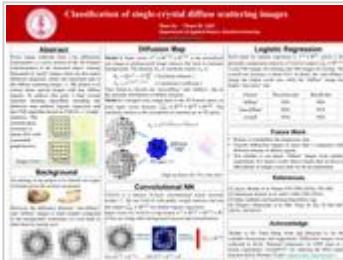


Application of Machine Learning Algorithms to Predict Flight-Delay

Other / General Machine Learning

Navaneeth Jamadagni, Nathalie Dominique Kuhn

[\[report\]](#) [\[poster\]](#)



Classification of single-crystal diffuse scattering images

General Machine Learning
Zhen Su
[\[report\]](#) [\[poster\]](#)



Predicting County Level Cost Differences for Treating Chronic Obstructive Pulmonary Disease

Finance & Commerce
Jonathan Lin, Aileen Wang, Michael Lee Smith
[\[report\]](#) [\[poster\]](#)



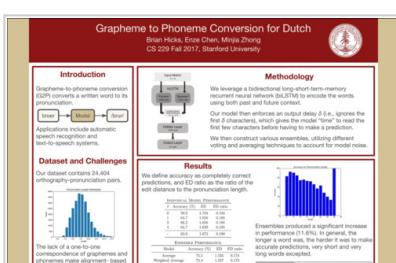
Tracking #metoo on Twitter to predict engagement

Other / General Machine Learning
Ana Tarano, Dana Kimberly Murphy
[\[report\]](#) [\[poster\]](#)



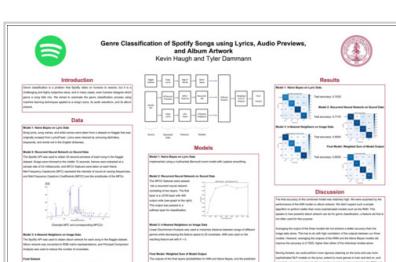
Music transcription using deep learning

Audio & Music
Liang Yang, Luoqi Li, Zhongyuan Ni
[\[report\]](#) [\[poster\]](#)



Grapheme to phoneme conversion for Dutch

Natural Language
Brian Hicks, Enze Chen, Minjia Zhong
[\[report\]](#) [\[poster\]](#)



Genre Classification of Spotify Songs using Lyrics, Audio Previews, and Album Artwork

Audio & Music
Tyler Dammann, Kevin Charles Haugh
[\[report\]](#) [\[poster\]](#)



End-to-End Models for Task-Oriented Gameplay in Minecraft with Deep Reinforcement Learning

Theory & Reinforcement Learning
Ali-Kazim Zaidi
[\[report\]](#) [\[poster\]](#)



Clustering and Classifying Autism to Improve Diagnosis and Research

Life Sciences

Rachael Aikens, Brianna Gail Kozemzak

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Optum: Investigating Links between the Immune System and the Brain

Life Sciences

Guhan Venkataraman, Alex Chu, Tymor Hamamsy

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Reinforcement Learning for Neural Network Architecture

Theory & Reinforcement Learning

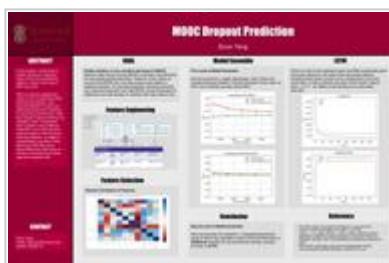
Leslie Lei

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Survey Analysis of Machine Learning Methods for Natural Language Processing for MBTI Personality Type Prediction

Natural Language

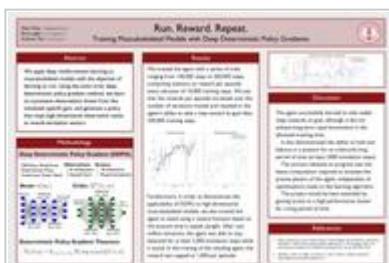
Brandon Bicheng Cui, Calvin Qi

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Mooc Dropout Prediction

General Machine Learning

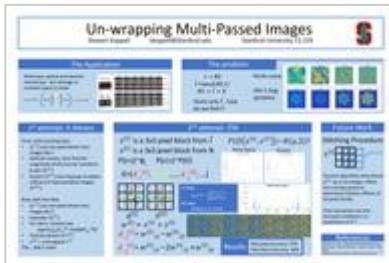
Jason Yang

[\[report\]](#) [\[poster\]](#)

Run. Reward. Repeat.

Theory & Reinforcement Learning

Amy Chou, Victoria Tsai, Rory Lipkis

[\[report\]](#) [\[poster\]](#)

Unwrapping Multi-Passed Images

Life Sciences

Stewart Alexander Koppell

[\[report\]](#) [\[poster\]](#)



Does Your Phone Know Your Touch?

Computer Vision

David Zucker, JC Charles Peruzzi, Philip Andrew Wingard

[\[report\]](#) [\[poster\]](#)


Applying Different Machine Learning Models to Predict Breast Cancer

Life Sciences

Vera Xu, Qiongjia Xu

[\[report\]](#) [\[poster\]](#)


Automatic colorization for line arts

Computer Vision

Baige Liu, Yang Wang, Alexander Fu

[\[report\]](#) [\[poster\]](#)


Automated Playlist Generation

Audio & Music

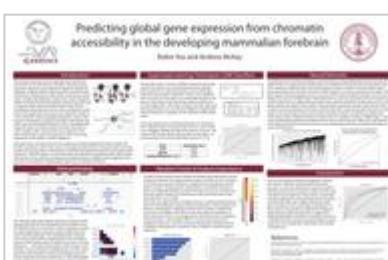
Kade Keith, Demetrios Fassois

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Machine Learning to Inform Breast Cancer Post-Recovery Surveillance

Life Sciences

Maxwell Harrison Stoller Allman, Jamie Kang , Lin Fan

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Predicting global gene expression from chromatin accessibility in the developing mammalian forebrain

Life Sciences

Robin Yeo, Andrew McKay

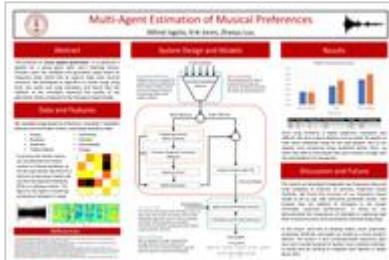
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Machine Learning for Professional Tennis Match Prediction and Betting

General Machine Learning

Andre Cornman, Grant Spellman, Daniel Wright

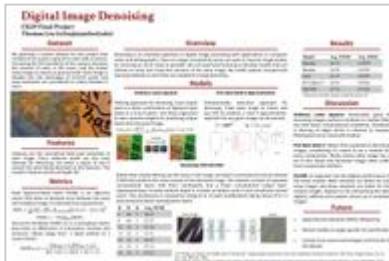
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Generative Modeling of Aggregated Musical Preferences

Audio & Music

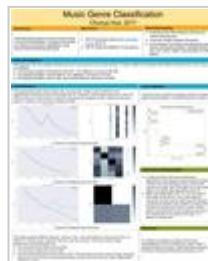
Joe Lou, Milind Jagota, Erik Jones

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Digital Image Denoising

Computer Vision

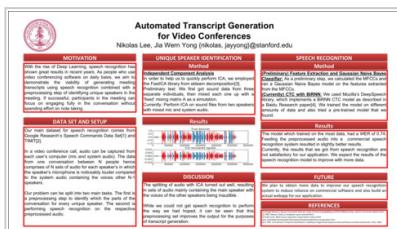
Thomas Liu

[\[report\]](#) [\[poster\]](#)

Music Genre Classification

Audio & Music

Chunya Hua

[\[report\]](#) [\[poster\]](#)

Automated Transcript Generation for Video Conferences

Audio & Music

Kar Heng Nikolas Basil Lee, Jay Yong

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Predicting Hard Disk Drive Failures

Other / General Machine Learning

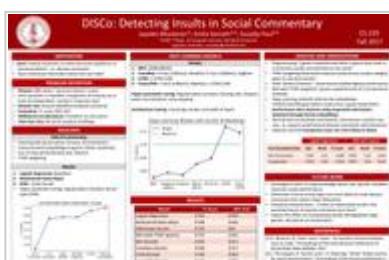
Juan Camacho, Wendy Li, Ivan Suarez

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Proactive Storage Health Management to Reduce Data Center Downtime

Other / General Machine Learning

Ji Eun Jang, Guanghua Shu

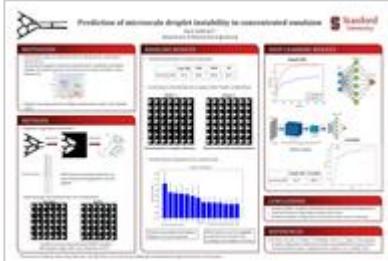
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DISCo: Detecting Insults in Social Commentary

Natural Language

Amita Kamath, Suvidip Paul, Jayadev Bhaskaran

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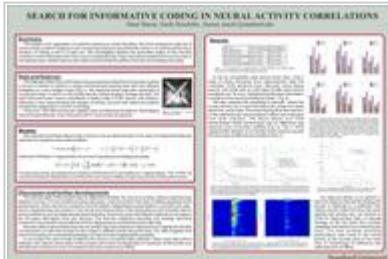


Prediction of microscale droplet instability in concentrated emulsion

Physical Sciences

Davis Wenham Hoffman

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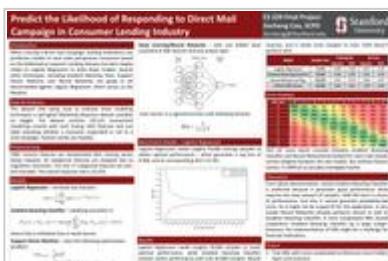


Search for Informative Coding in Neural Activity Correlations

Life Sciences

Omer Hazon, Vasily Kruzhilin

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Predict the Likelihood of Responding to Direct Mail Campaign in Consumer Lending Industry

Finance & Commerce

Jincheng Cao

[\[report\]](#) [\[poster\]](#)



Reinforcement Learning for Robotic Locomotion

Theory & Reinforcement Learning

Bo Liu, Huanzhong Xu, Songze Li

[\[report\]](#) [\[poster\]](#)



Understanding Travel to Airports in NYC

Life Sciences

Sierra Gentry, Dominik Tobias Schunack

[\[report\]](#) [\[poster\]](#)



Clustering Startups Based on Customer-Value Proposition

Finance & Commerce

Daniel Semeniuta, Meeran Ismail

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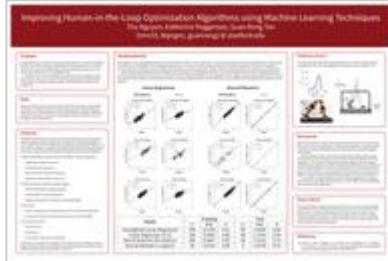


Convex Optimization For Machine Learning (cvx4ml)

Other / General Machine Learning

Konstantin Pavlovich Burlachenko

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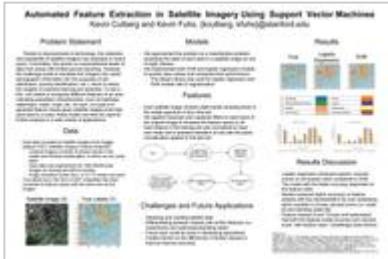


Improving Human-in-the-Loop Optimization Algorithms using Machine Learning Techniques

Athletics & Sensing Devices

Katie Poggensee Poggensee, Thu Nguyen, Guan Rong Tan

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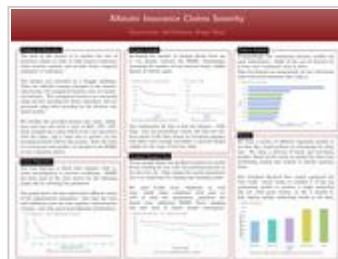


Feature Extraction in Satellite Imagery Using Support Vector Machines

Computer Vision

Kevin Culberg, Kevin Fuhs

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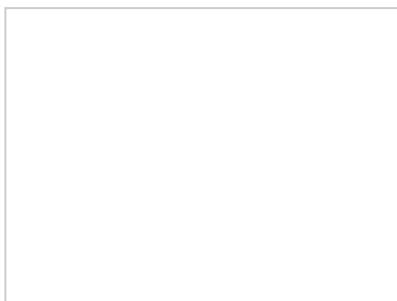


Allstate Insurance Claims Severity: A Machine Learning Approach

Finance & Commerce

Rajeeva Gaur, Hongyi Wang, Jeff Pickelman

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Clustering-Based Diversification in Financial Portfolios

Finance & Commerce

Carolyn Soo

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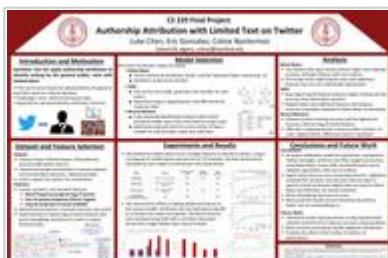


When to Stop-and-Frisk

Other / General Machine Learning

Madeline Saviano, Sarah Tieu

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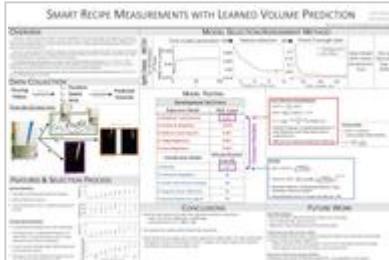


Authorship Attribution with Limited Text

Natural Language

Coline Nantermoz, Eric Gonzalez, Luke Chen

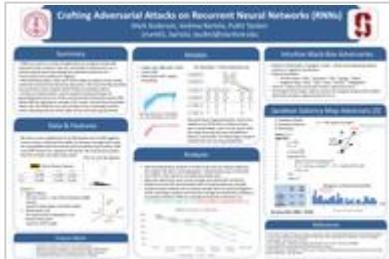
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Smart Recipe Measurements with Learned Volume Prediction

Physical Sciences

Samantha Maticka, Kurt Nelson

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Crafting Adversarial Attacks on RNNs

Other / General Machine Learning

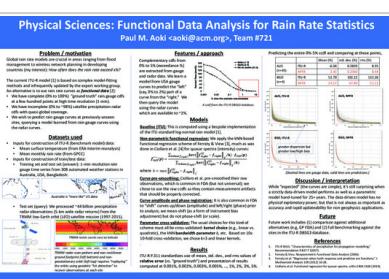
Mark Matthew Anderson, Andy Bartolo, Pulkit Tandon

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Generate Adversarial Attacks

Other / General Machine Learning

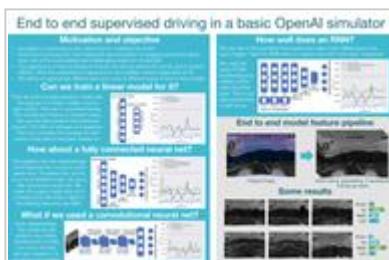
Li Cai, Mark Liu

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Functional Data Analysis for Rain Rate Statistics

Physical Sciences

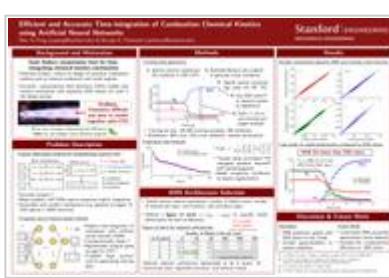
Paul Masami Aoki

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Learning to drive in a basic OpenAI simulator

Other / General Machine Learning

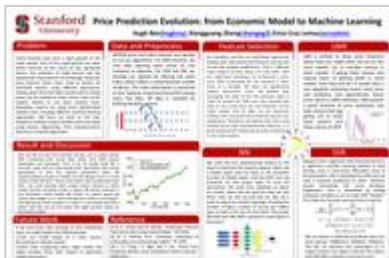
Philippe Fraisse

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[\[poster\]](#)


Efficient and accurate time-integration of combustion chemical kinetics using artificial neural networks

Physical Sciences

Terry Peng, Nico Hunter Pinkowski

[\[report\]](#)
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Price Prediction Evolution: from Economic Model to Machine Learning

Finance & Commerce

Hugh Ren, Xiangguang Zheng, Erico Cruz Lemus

[\[report\]](#)
[\[poster\]](#)



Predicting Song Genre from Lyrics and Fast Fourier Transforms

Audio & Music

Jayen Ram, Daniel Alexander Salz

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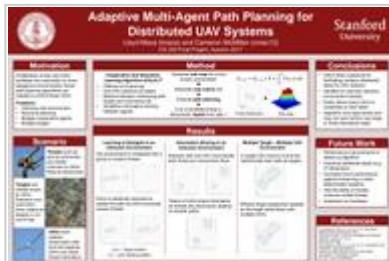


Short time horizon solar power forecasting

Physical Sciences

Bennet Meyers, Julio Hoffmann Mendes

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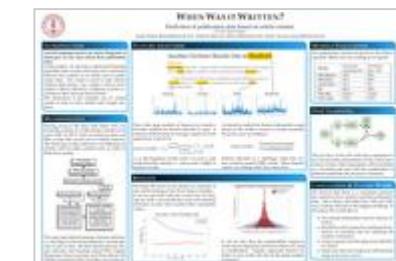


Adaptive Multi-Agent Path Planning for Distributed UAV Systems

Physical Sciences

Lloyd Maza, Cameron McMillan

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When Was it Written?

Natural Language

Joseph Bakarji, Dimitrios Belivanis, Sepehr Ghazi Nezami

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Playing CHIP-8 Game with Reinforcement Learning

Theory & Reinforcement Learning

Samuel Rogers, Patrick DeMichele, Niven Achenjang

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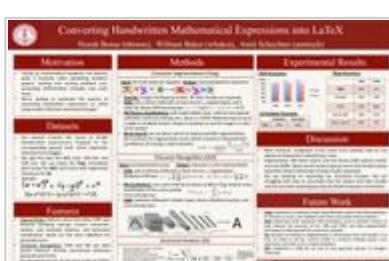


Classification Models of Driving Distraction: Analysis and Comparison

Computer Vision

Taiming Zhang, Liuming Zhao, Lingzi Guo

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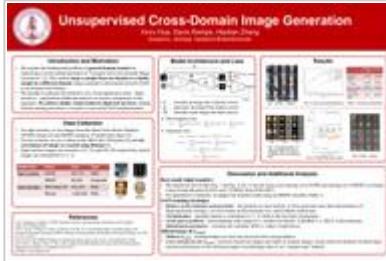


Converting Handwritten Mathematical Expressions into LATEX

General Machine Learning

Norah Borus, Amit Schechter, William Taylor Bakst

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Unsupervised Cross-Domain Image Generation

Computer Vision

Xinru Hua, Davis Winston Rempe, Haotian Zhang

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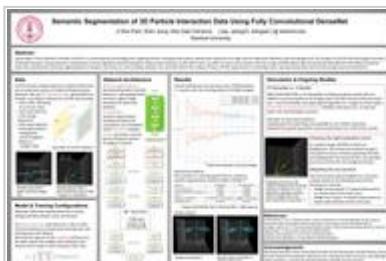


Predicting Politician NRA Ratings from Campaign Speeches

Natural Language

Julia Olivieri, Allison Koenecke, Anqi Ji

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Semantic Segmentation of 3D Particle Interaction Data Using Fully Convolutional DenseNet

Physical Sciences

Zhilin Jiang, Ji Won Park, Aldo Gael Carranza

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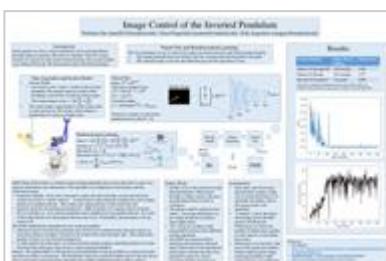
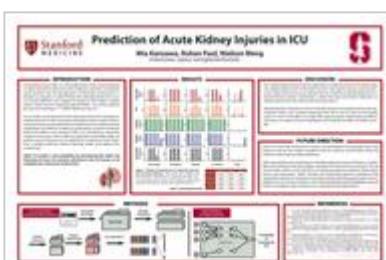


Image Control of the Inverted Pendulum

Theory & Reinforcement Learning

Nicholas Tan, Erik Christian Augustine, Sean Fitzgerald

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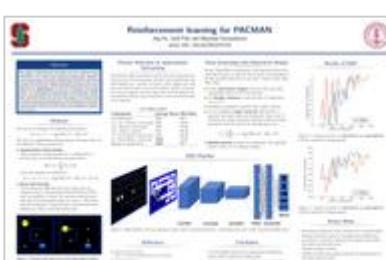


AKI Prediction

Life Sciences

Mia Kanzawa, Rohan Paul, Nielson Weng

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Reinforcement learning for PACMAN

Theory & Reinforcement Learning

Abeynaya Gnanasekaran, Jordi Feliu Fab, Jing An

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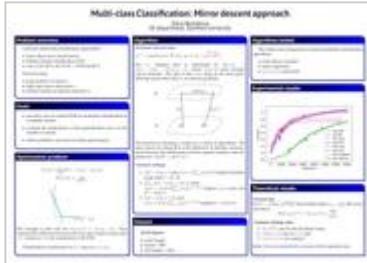


Application of Deep Learning to Algorithmic Trading

Finance & Commerce

Sabrina(Yatong) Chen, Guanting Chen, Takahiro Fushimi

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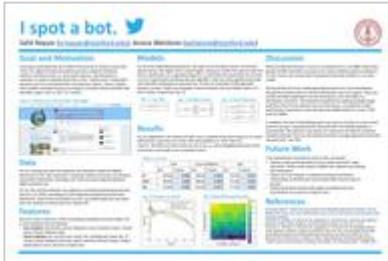


Multi-class classification via proximal mirror descent

Other / General Machine Learning

Dasha Reshetova

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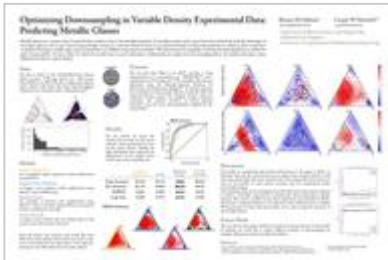


I Spot A Bot

Other / General Machine Learning

Jessica Wetstone, Sahil Nayyar

[\[report\]](#) [\[poster\]](#)



Optimizing Downsampling in Variable Density Experimental Data: Predicting Metallic Glasses

Physical Sciences

Cooper Elsworth, Brenna Marie Gibbons

[\[report\]](#) [\[poster\]](#)



Exploring 3D Convolutional Neural Networks for Lung Cancer Detection in 3D CT Volumes

Life Sciences

Shubhang Desai

[\[report\]](#) [\[poster\]](#)



What's for Dinner? Recommendations in Online Grocery Shopping

Finance & Commerce

Skip Perry, Alan Flores-Lopez, Poorvi Bhargava

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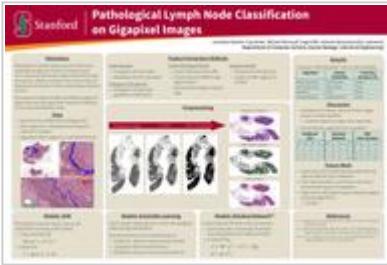


Bilateral Trade Flow Prediction

Finance & Commerce

Sonia Circlaeyns, Chaitanya Kanitkar, Daiki Kumazawa

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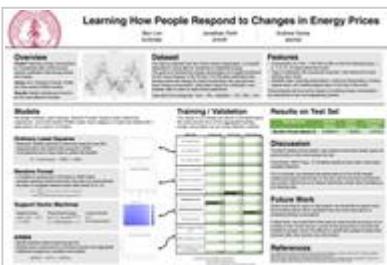


Pathological Lymph Node Classification

Life Sciences

Michael Mariscal, Jonathan Austin Booher, Ashwini Ramamoorthy

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Learning How People Respond to Changes in Energy Prices

Other / General Machine Learning

Andrew Sonta, Jonathan Roth, Ben Chuah Lim

[\[report\]](#) [\[poster\]](#)



Recipe for Success

Other / General Machine Learning

Zack Cinquini, James Ordner, Benjamin Share

[\[report\]](#) [\[poster\]](#)



Dynamic Portfolio Optimization Using Evolution Strategy

Finance & Commerce

Charles Xu, Kexin Yu

[\[report\]](#) [\[poster\]](#)



Classifying Entorhinal Cortex Neuronal Cell Types in Virtual Reality

Life Sciences

Mark Houston Plitt, Malcolm Campbell

[\[report\]](#) [\[poster\]](#)

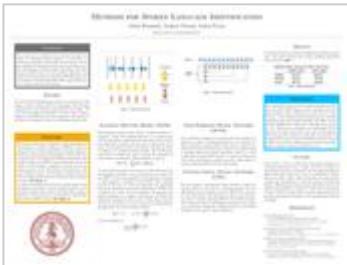


Auto Generation of Arabic News Headlines

Natural Language

Saud Alsaif, Omar Alhadlaq, Yaya Khoja

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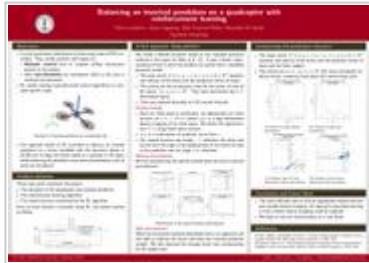


Language Identification Using Neural Networks

Audio & Music

Justin Pyron, Andrew Brian Deveau, Julien Boussard

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Inverted Pendulum on a Quadcopter: A Reinforcement Learning Approach

Physical Sciences

Javier Sagastuy Brena, Alexandre El Assad, Elise Fournier-Bidoz, Pierre Lachevre

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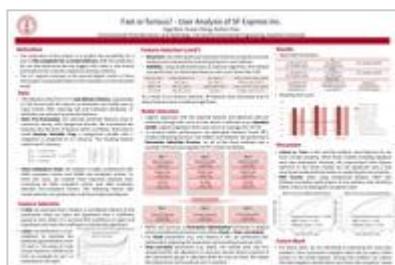


Machine Learning Models for Inverse Power Flow in the Electricity Grid

Other / General Machine Learning

Thomas Mark Gill, Siobhan Powell, Jen Cardona

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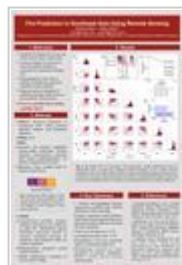


Fast or Furious? - User analysis of SF Express Inc

Other / General Machine Learning

Karen Zhao, Gege Wen, Yiyuan Zhang

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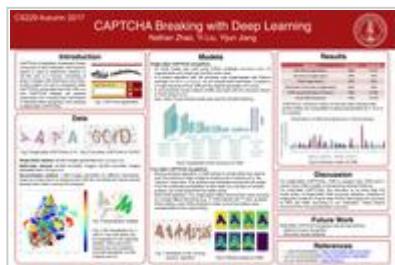


Fire Prediction in Southeast Asia Using Remote Sensing

Physical Sciences

Krishna Rao, Sally Zhen

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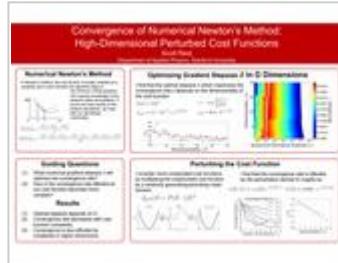


Breaking CAPTCHA Using Deep Learning

Computer Vision

Nathan Zhiwen Zhao, Yi Liu, Yijun Jiang

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Numerical Optimization on a Perturbed Cost Function

Theory & Reinforcement Learning

Scott Henry Reid

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Black Lives Matter: Clustering As a Way of Analyzing Online Discussions Around Race

Natural Language

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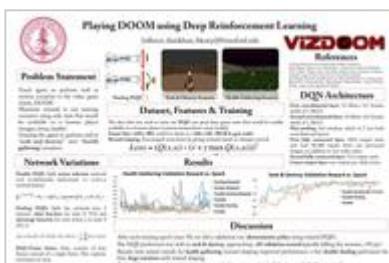


Face Generation with Conditional Generative Adversarial Networks

Computer Vision

Marcella Cindy Prasetio, Xuwen Cao, Subramanya Rao Dulloor

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Playing DOOM with Deep Reinforcement Learning

Theory & Reinforcement Learning

Tushar Dhoot, Daniyal Khan, Ben Robert Konyi

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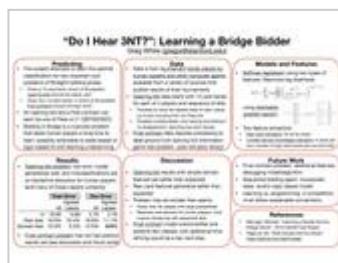


Multiview Human Synthesis From a Singleview

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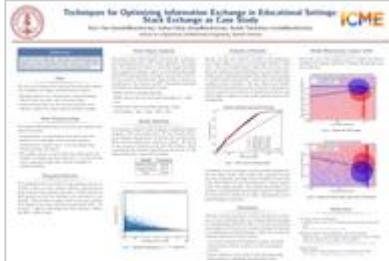


\"Do I Hear 3NT?\": Learning a Bridge Bidder

Other / General Machine Learning

Greg White

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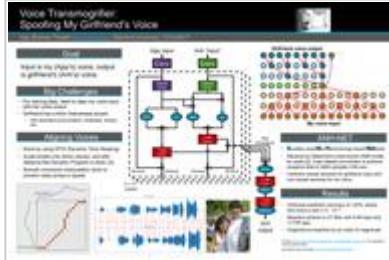


Techniques for Optimizing Information Exchange in Educational Settings: Stackexchange as Case Study

Other / General Machine Learning

Andrew Slottje, Kevin Chen, Nurbek Tazhibetov

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Voice Transmogrifier: Spoofing My Girlfriend's Voice

Audio & Music

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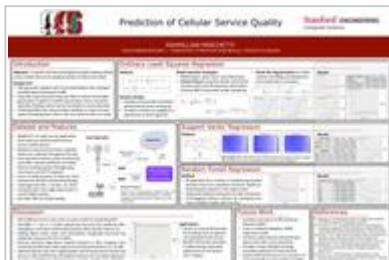


Speech Accent Identification

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Prediction of Cellular Service Quality

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Max Cooper Minichetti

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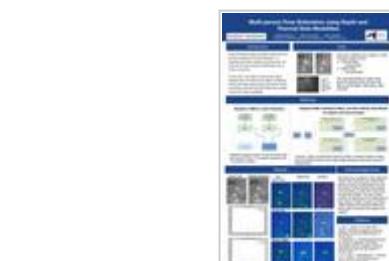


Projecting 3-point shooting for NBA draft prospects

Athletics & Sensing Devices

Jerold Yu, Hilary Sun, Roland Centeno

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3D Pose Estimation in ICUs using Depth and Thermal Sensors

Computer Vision

Meena Chetty, John Kaleialoha Kamalu, Rishab Mehra

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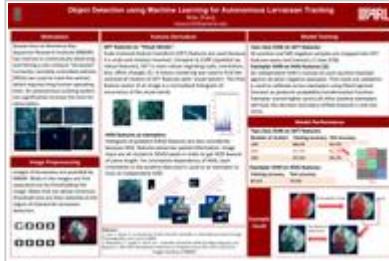


PACCAR: Predicting Time to Repair with Minimal Data

Physical Sciences

Julio A Martinez, Christy Dennison, Zhengyi Lian

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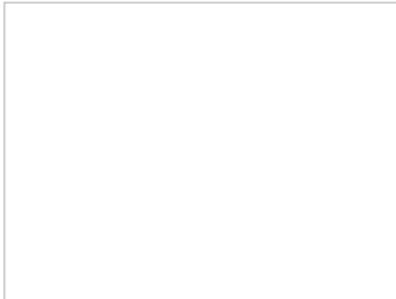


Object Detection Using Machine Learning for Autonomous Larvacean Tracking

Computer Vision

Molly Zhang

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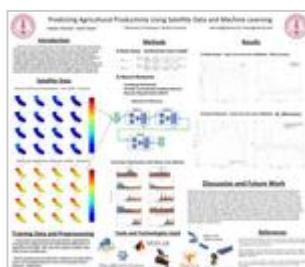


Reliable neural networks via abstention

Other / General Machine Learning

Amirata Ghorbani, yasaman shirian

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Predicting Agricultural Yields with ML

Other / General Machine Learning

noah michael dewar, Aakash Ahamed

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Instagram Hashtag Prediction, With and Without Data

General Machine Learning

Shreyash Pandey, Abhijeet Phatak

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Image Mosaic

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Goncalo Trigo Cabrita Gil

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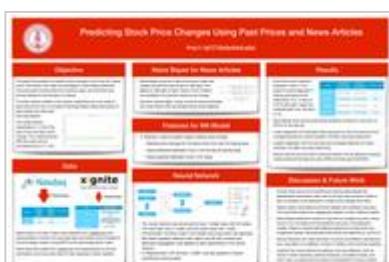


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Predicting tech stock prices based on previous prices and news

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The Price Is Right: Predicting Prices Using Product Images

Computer Vision

Steven Chen, Edward Chou, Richard Yang

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Cryptocurrency Price Prediction based on News and Social Media Sentiment

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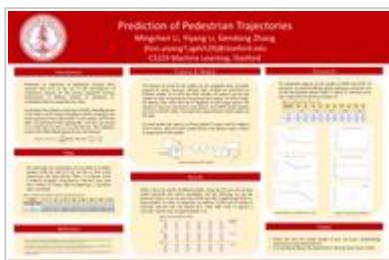


Revisiting the Netflix Prize: Probabilistic Extensions to KNN and Other Techniques

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Victor Cheung, Evan Huang

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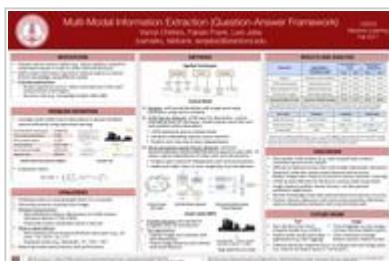


Prediction of Pedestrian Trajectories

Other / General Machine Learning

Mingchen Li, Yiyang Li, Gendong Zhang

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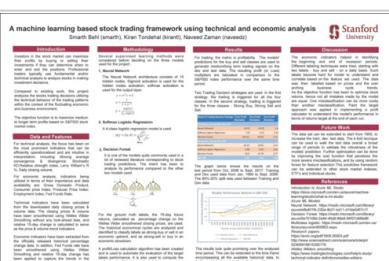


Multi-Modal Information Extraction (Question-Answer Framework)

Natural Language

Lars Jebe, Vamsi Chitters, Fabian Frederik Frank

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A machine learning based stock trading framework using technical and economic analysis

Finance & Commerce

Kiran Tondehal, Smarth Behl, Naveed Zaman

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Supervised learning methods for biometric authentication on mobile devices

Athletics & Sensing Devices

Valerie Ding, Jonathan Li, Stephanie Dong

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Predicting Chemical Reaction Type and Reaction Products with Recurrent Neural Networks

Anvita Gupta

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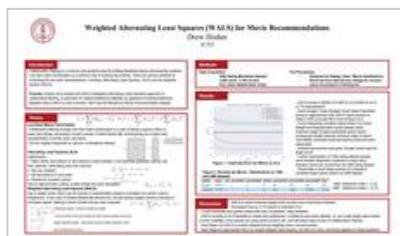


Scalable Deep Learning for Image Classification with K-Means and Logistic Regression

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Venkata Krishna Reddy Sanepalli

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Weighted Alternating Least Squares (WALS) for Movie Recommendations

General Machine Learning

Andrew Hodun

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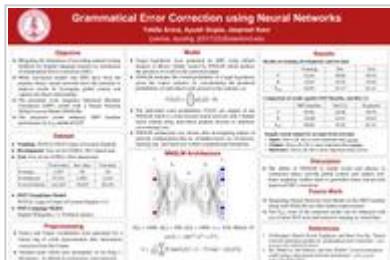


Deep RL For Starcraft 2

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Andrew George Chang

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Grammatical Error Correction using Neural Networks

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Jaspreet Kaur, Yokila Arora, Ayush Gupta

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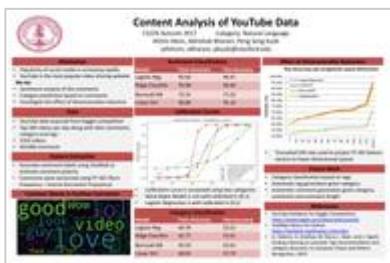


Real Time Monitoring of CCTV Camera Images Using Object Detectors and Scene Classification for Retail and Surveillance Applications

Computer Vision

Anand Arun Joshi

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Content Analysis of YouTube Data

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Afshin Moin, Abhishek Bharani, Peng Seng Kuok

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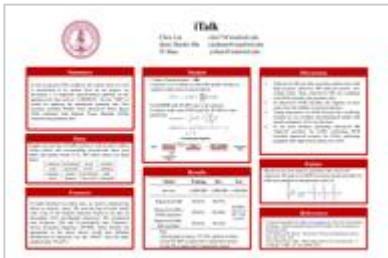


Computer Vision for Card Games

Computer Vision

Jesper Westell, Ben Goeing, Matias Castillo

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iTalk

Natural Language

Qian (Sarah) Mu, Chris Lin, Yi Shao

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Classification of Alzheimer's Disease using Patients' MRI and Related Features

Life Sciences

Tita Ristanto, Kevin Chavez, Malavika Bindhi

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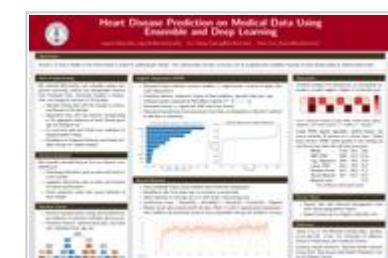


Learning Optical Flow from Real Robot Data

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Parth Shah

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Heart Disease Prediction using Ensemble Learning

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Sagnik Majumder, Peter Dun, Eric James Wang

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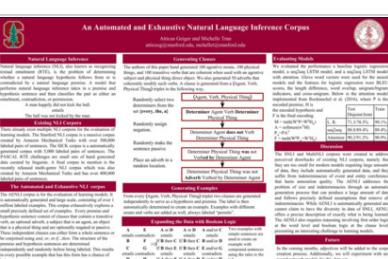


Predicting Outcomes of Professional DotA2 games

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Joe Higgins, Petra Grutzil, Long Viet Tran

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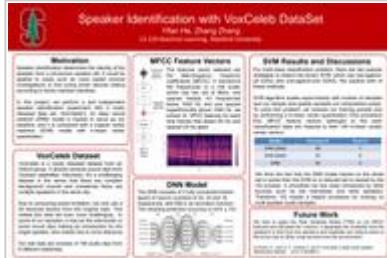


An Automatically Generated Large Scale Corpus for NLI

Natural Language

Atticus Geiger, Michelle Tran

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Speaker Identification with VoxCeleb DataSet

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Predict Effect of Trump's Tweets on Market Movements

Finance & Commerce

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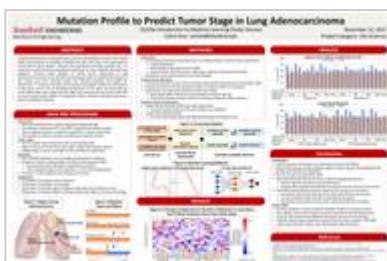


Machine Learning approaches for Identifying & Characterizing Faults in Logic Simulation for Silicon Development Processes

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Prawal Shrestha, Mubeen Shahid Khan

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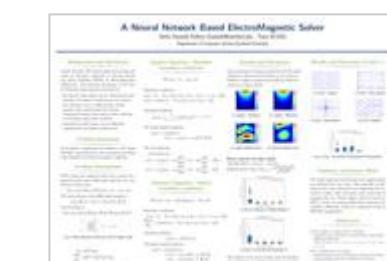


Mutation Profile to Predict Tumor Stage in Lung Adenocarcinoma

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Calvin Kuo

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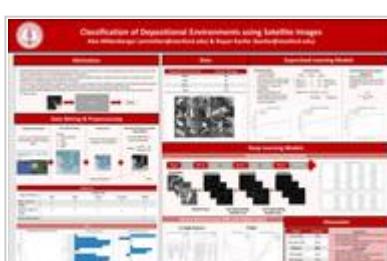


A Neural Network Based ElectroMagnetic Solver

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Sethu Hareesh Kolluru

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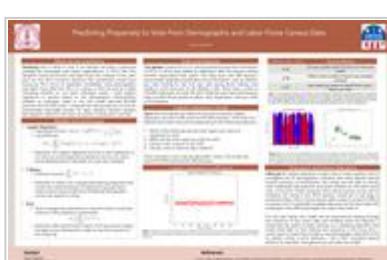


Depositional Environment Classification from Satellite Imagery

Computer Vision

Alex Miltenberger, Rayan Sami Kanfar

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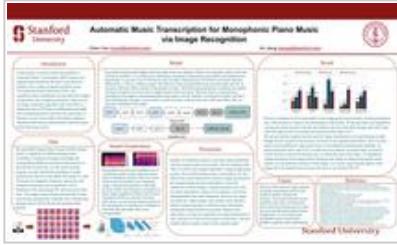


Using Machine Learning to Make a Likely Voter Model

Other / General Machine Learning

Tynan Challenor

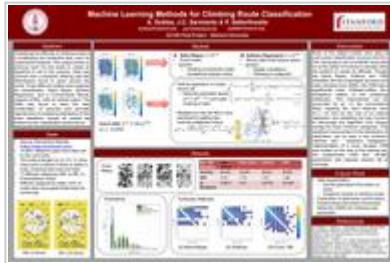
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Automatic Music Transcription for Monophonic Piano Music

Audio & Music

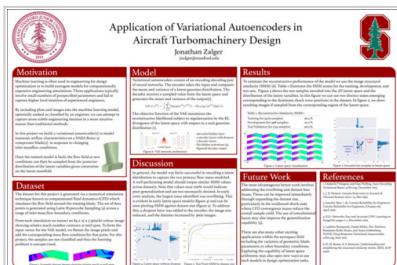
An Jiang, Chen Cen

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Machine Learning Techniques for Climbing Route Classification

Athletics & Sensing Devices

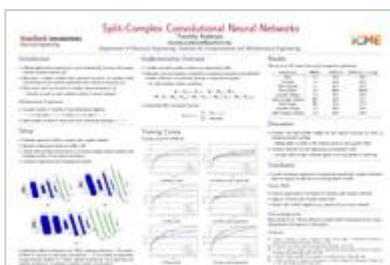
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Application of Variational Autoencoders for Aircraft Turbomachinery Design

Physical Sciences

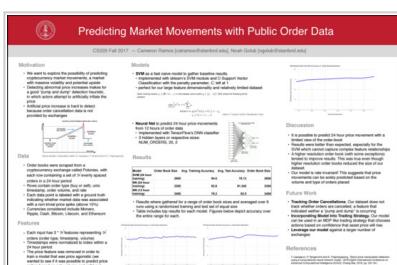
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Split-Complex Convolutional Neural Networks

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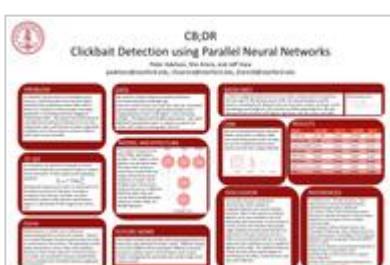
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Cryptocurrency Pumping Predictions: A Novel Approach to Identifying Pump And Dump Schemes

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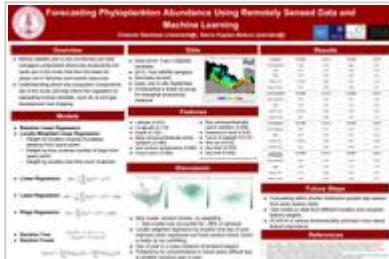
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Rage Against the Machine Learning: Learning to Predict Song Popularity

General Machine Learning

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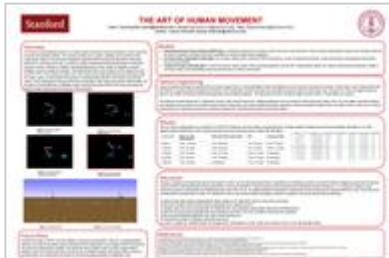


Forecasting of Arctic phytoplankton abundance using remotely sensed data and machine learning

Physical Sciences

Sierra Alexandra Kaplan-Nelson, Cheenar Banerjee

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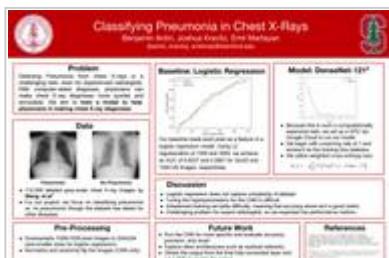


The Art of Human Movement

Theory & Reinforcement Learning

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Detecting Pneumonia from Chest X-Rays

Computer Vision

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Predicting NBA Game Outcomes

Athletics & Sensing Devices

Jaak Uudmae

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Projecting NFL Quarterback Readiness

Athletics & Sensing Devices

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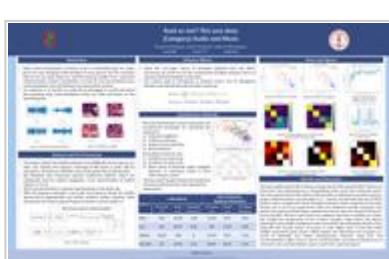


Predicting Outcomes in Chatbot-based Cognitive Behavioral Therapy

Life Sciences

David Sung-eun Lim

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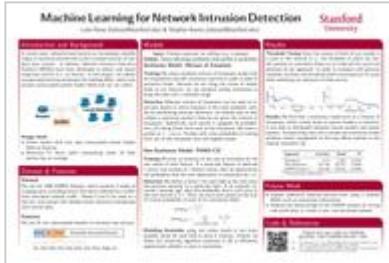


Rock or Not? This sure does.

Audio & Music

Arjun Parthipan, Lakshmi Manoharan, Anand Venkatesan

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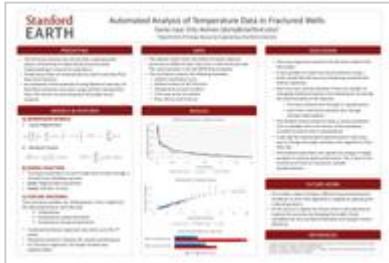


Machine Learning Techniques for Network Intrusion Detection

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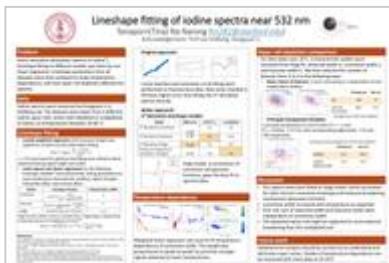


Automated analysis of temperature data in fractured wells

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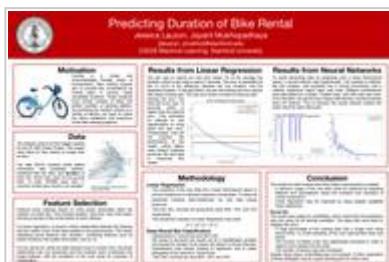


Line shape fitting of iodine spectra near 532 nm

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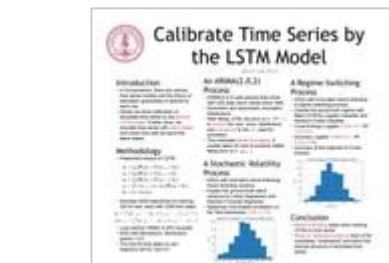


Predicting Bike Rental Duration

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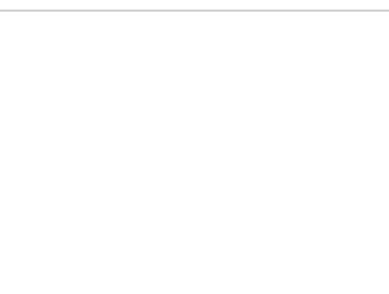


Calibrate Time Series by LSTM

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Recommender Systems: Comparison Analysis between Traditional Techniques and Neural Embedding

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Towards Mitigating Bias in Online Reviews: An Application to Amazon.com

General Machine Learning

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How Much Is the Mona Lisa Really Worth?

Computer Vision

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Fake Review Detection on Yelp

Natural Language

Zehui Wang, Tianpei Qian, Yuzhu Zhang

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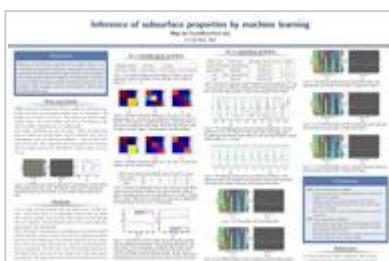


Predicting Which Stocks Will Beat the Market

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Junlin Liu, Yongshang Wu, Hao Wang

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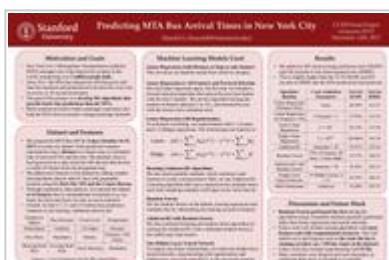


Inference of subsurface properties by machine learning

Physical Sciences

Huy Quang Le

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Predicting MTA Bus Arrival Times in New York City

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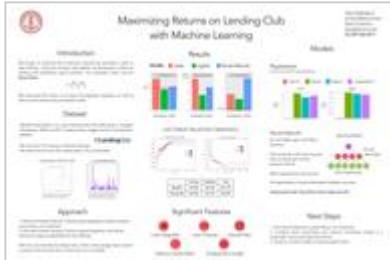


Using Bitcoin Ledger Network Data to Predict the Price of Bitcoin

Finance & Commerce

Spenser Anderson, Lamont Anderson, John Poothokaran, John Mern

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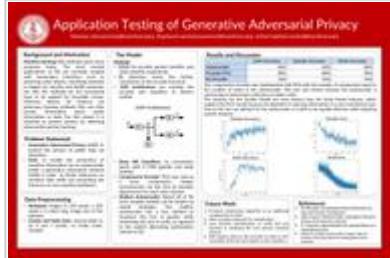


Predicting Loan Defaults with Machine Learning

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Drew John Mathieson, Abiel Gutierrez

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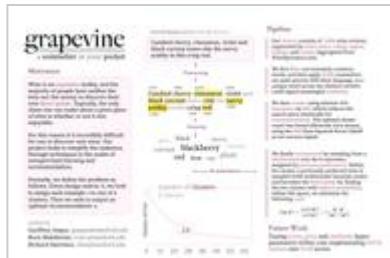


General Adversarial Privacy

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Predicting habitable exoplanets from NASA's Kepler mission data using Machine Learning

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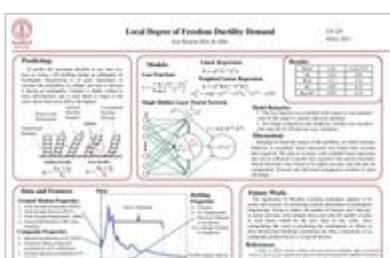


Finding Natural S&P 500 Sectors Based on 10K Reports

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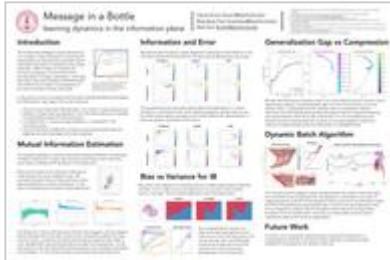


Local Degree of Freedom Ductility

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Message in a bottle: learning dynamics in the information plane

Theory & Reinforcement Learning

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Application of Machine Learning Techniques for Heart Sound Recording Classification

Life Sciences

Vincent Lee, Anatoly Anatolievich Yakovlev

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Smart Trash Net: Waste Localization and Classification

Computer Vision

Vikram Sreedhar, Robel Eneyew Mengistu, Oluwasanya Awe

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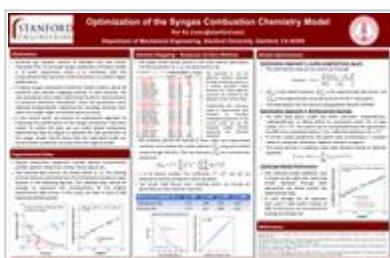


Unruffling Feathers: Customer Response Prioritization Using Machine Learning

Natural Language

Kathryn Tooker, Tyreke White, Debashri Mukherjee

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Optimization of the Syngas Combustion Chemistry Model

Physical Sciences

Rui Xu

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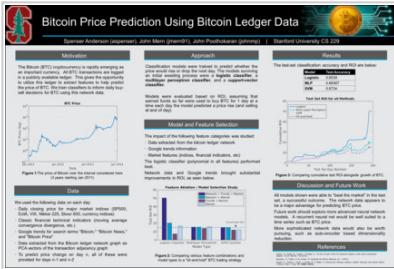


Modeling language games

Natural Language

Veronica Lin, Chris Coffey Proctor

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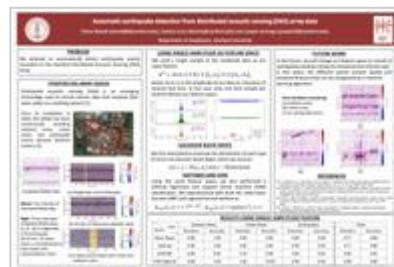


Using Bitcoin Ledger Network Data to Predict the Price of Bitcoin

Finance & Commerce

Spenser Anderson Lamont Anderson, John Martin Poothokaran, John Mern

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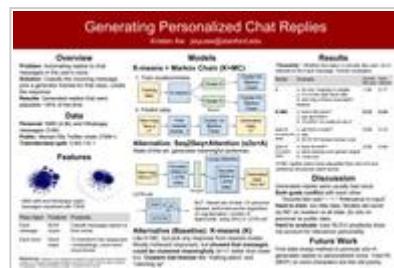


Automatic earthquake detection from distributed acoustic sensing (DAS) array data

Physical Sciences

Ettore Biondi, Joseph Jennings, Fantine Huot

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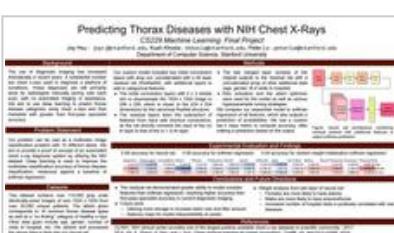


Generating personalized chat messages

Natural Language

Kristen Aw

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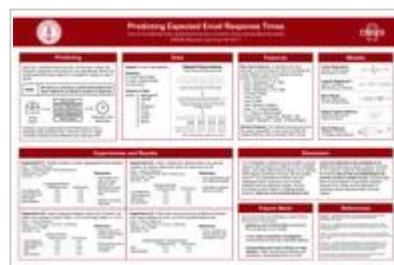


Interpreting impact of metadata tagging on thoracic disease classification

Computer Vision

Peter Lu, Joy Hsu, Kush Khosla

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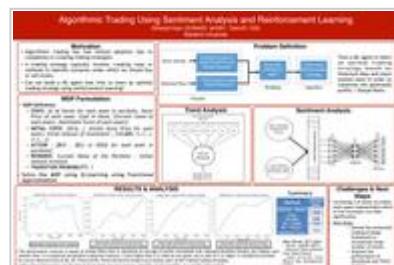


Predicting Expected Email Response Times

General Machine Learning

Kevin Khieu, Laura Victoria Cruz-Albrecht

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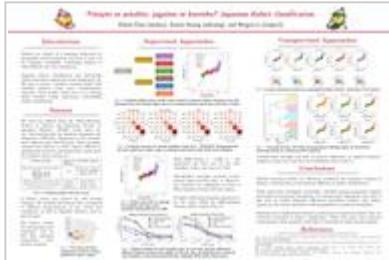


Algorithmic Trading using Sentiment Analysis and Reinforcement Learning

Finance & Commerce

Simerjot Kaur

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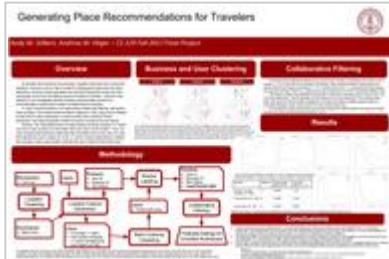


Potayto or potahto, jagaimo or bareisho? Japanese dialect classification

Natural Language

Ningrui Li, Stacey Huang, Elaine Chou

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Generating Place Recommendations for Travelers

Other / General Machine Learning

Andy Gilbert, Andrew Michael Hilger

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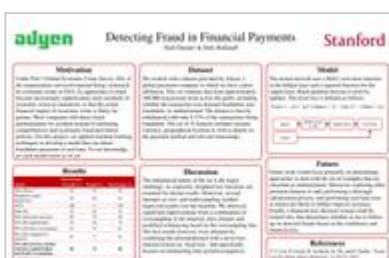


Reinforcing safety, with style: exploring reward shaping through human feedback

Theory & Reinforcement Learning

Cristian Opris

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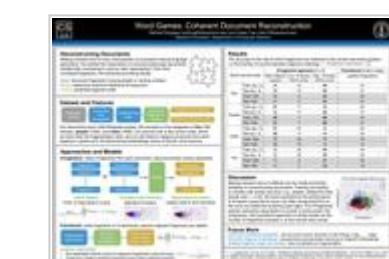


Detecting Fraud in Financial Payments

Finance & Commerce

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Word Games: Coherent Document Reconstruction

Natural Language

Caelin Tran, Mitchell Ryan Douglass

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Robust Human Activity Detection with Smartphones

Athletics & Sensing Devices

Paa Adu, Elias You Wu

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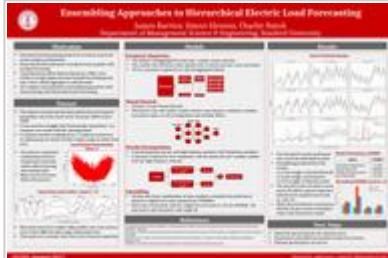


Predicting cryptocurrency price

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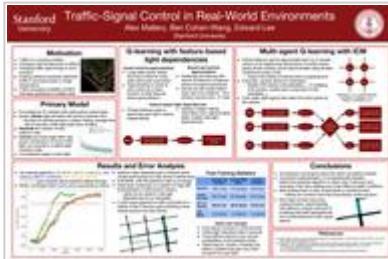


Ensembling Approaches to Hierarchical Electric Load Forecasting

Other / General Machine Learning

James Jerome Barrios, Charlie Natoli, Simon Gleeson

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Optimizing Traffic Light Behavior in Real-World Environments

Theory & Reinforcement Learning

Ben Cohen-Wang, Alex David Mallery

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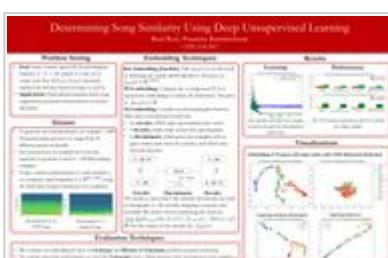


RainbowNet: Color Extrapolation from Grayscale Images

Computer Vision

Cindy Lin, Emily Ling, Owen Junjia Wang

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Determining Song Similarity Using Deep Unsupervised Learning

Audio & Music

Brad Ross, Prasanna Ramakrishnan

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Nothing but Neural Net: Projecting NBA Basketball Shot Trajectories

Athletics & Sensing Devices

Lisa Ann Yu, Ezra van Negri, Sriraman Madhavan

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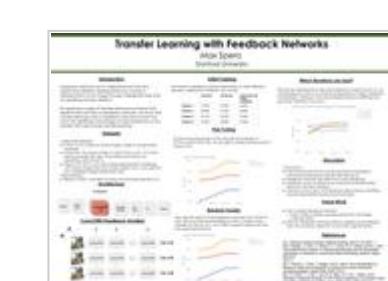


Predicting Sovereign Default

Finance & Commerce

Andrew Huang, Taresh Sethi

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Exploring Feature Embeddings using Feedback Networks

Computer Vision

Maxwell Spero

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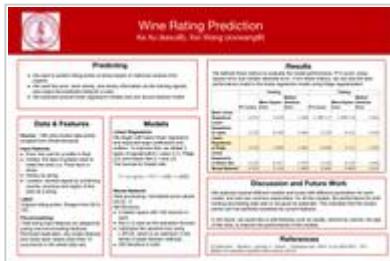


PC game play time estimation based on Steam data and reviews

Other / General Machine Learning

Siyu Yang, Xiaohua Liang

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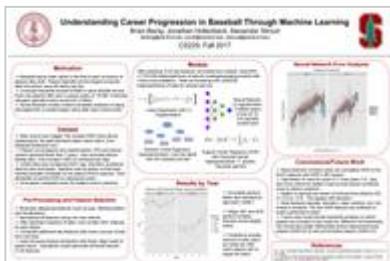


Wine Rating Prediction

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Xixi Wang, Ke Xu

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Understanding Career Progression in Baseball Through Machine Learning

Other / General Machine Learning

Brian Bierig, Alexander James Stroud, Jonathan Hollenbeck

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Reinforcement Learning Applied to a Game of Deceit

Theory & Reinforcement Learning

Hana Lee

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"Because It's the Cup": Predicting the Stanley Cup Playoffs

Athletics & Sensing Devices

Vineet Kosaraju, Shuvam Chakraborty, Mason Swofford

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Using AI to Make Predictions and Decisions on Stock Market

Finance & Commerce

Alice Zheng, Jack Jin

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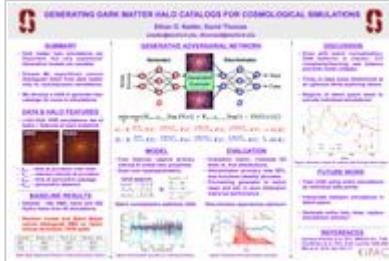


Predicting Baseball Postseason Results from Regular Season Data

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Ruiqi Chen, Alexander Spaulding Hobbs

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Generating Dark Matter Halo Catalogs For Cosmological Simulations

Physical Sciences

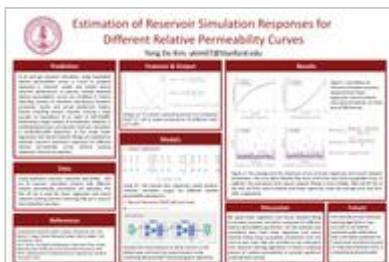
Ethan Nadler, David Thomas

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Two Machine Learning Approaches to Understand the NBA Data

Athletics & Sensing Devices

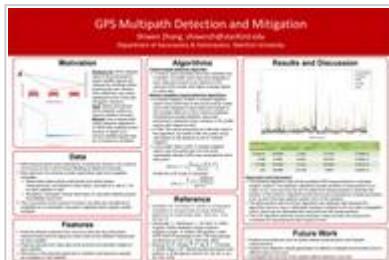
Panagiotis Lolas

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Estimation of Reservoir Simulation Response for Different Relative Permeability Curves Using Machine Learning

Physical Sciences

Yong Kim

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GPS Multipath Detection and Mitigation

Physical Sciences

Shiwen Zhang

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Predicting the Outcome of H-1B Visa Applications

Other / General Machine Learning

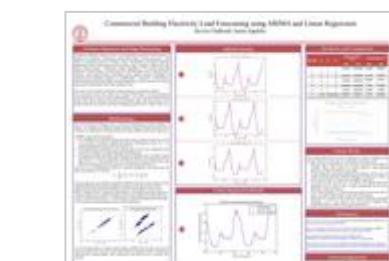
Beliz Gunel, Onur Cezmi Mutlu

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Do Android Dream of Explosive Sheep? Building a Hearthstone AI

Other / General Machine Learning

Nolan Handali, Aleksander Dash, Franklin L Jia

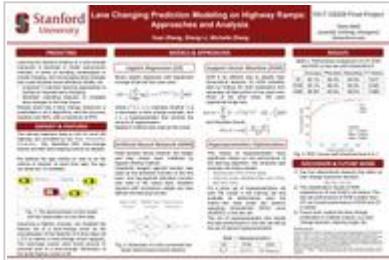
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Commercial Building Electricity Load Forecasting Using Linear Regression and Neural Networks

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Kevin Nicolas Chalhoub, Justin Appleby

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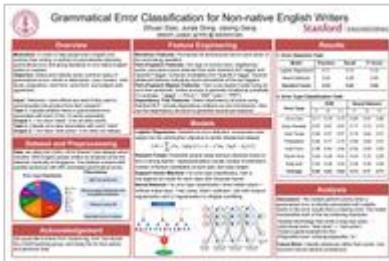


Lane Changing Prediction Modeling on Highway Ramps: Approaches and Analysis

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Yuan Zhang, Sheng Li, Michelle Mengxuan Zhang

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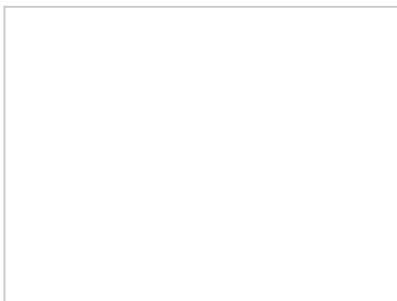


Grammatical Error Classification for Non-native English Writers

Natural Language

Jiaxing Geng, Junjie Dong, Zihuan Diao

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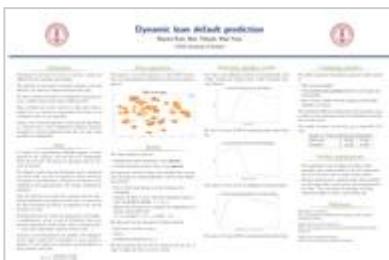


Whose Rap is it Anyways? - Determining Hip-Hop Artists from their Lyrics

Natural Language

Robin Cheong, Arvind Krishna Ranganathan, Jiaqi Wang

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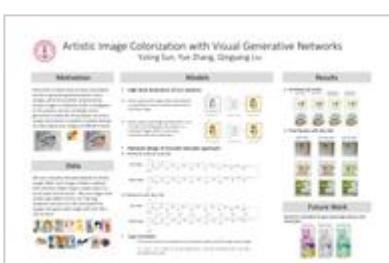


Dynamic loan default prediction

Finance & Commerce

Marc Thibault, Maxime Rivet, Mael Trean

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Artistic Image Colorization with Visual Generative Networks

Computer Vision

Yuting Sun, Yue Zhang, QINGYANG LIU

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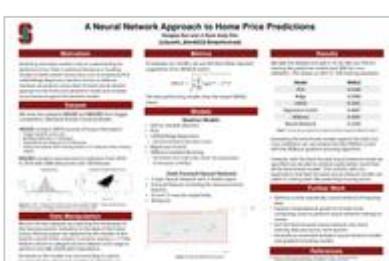


Personal Identification through Keystroke Dynamics

Athletics & Sensing Devices

Stock Sawasdee

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A Net Over Your Head: A Neural Network Approach to Home Price Predictions

Finance & Commerce

Andy Kim, Hongtao Sun

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Learning an Optimal Policy for Police Resource Allocation on Freeways

Physical Sciences

Brian Jackson, Taylor Howell, Ola Shorinwa

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Discouraging Cyberbullying using SVMs

Natural Language

Michael Kossyrev

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Speeding up ResNet training

Computer Vision

Konstantin Solomatov, Denis Stepanov

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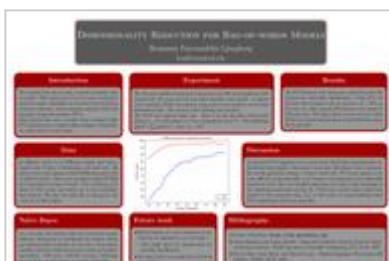


Toward Automatic Icon Design Using Machine Learning

Computer Vision

Moses Soh

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Dimensionality Reduction for Bag-of-words Models: LSA vs PCA

Natural Language

Benjamin Ljungberg

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Sentimental Analysis with Amazon Review Data

Natural Language

Yi Sun, Mingxiang Chen

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Bird Classification and Feature Recognition

Computer Vision

Anne Alter, Karen May Wang

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Human or Robot

Other / General Machine Learning

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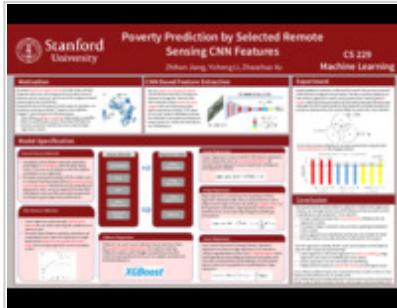


Predicting NBA shots

Athletics & Sensing Devices

Brett Merla Meehan

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Poverty Prediction by Selected Remote Sensing CNN Features

Computer Vision

Zhaozhuo Xu, Zhihan Jiang, Yicheng Li

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