**password:** machinelearning

**List of ML SMU final topics:**

| **Name:** | **Topic** | **Link** |  |
| --- | --- | --- | --- |
| B. Lewandowski | Autonomous Driving With Convolutional Neural Networks | [link](https://www.youtube.com/watch?v=oN0_cL9fKhY) |  |
| W. Sherman | Machine Learning Approaches to Computer Aided Diagnostics | [link](https://vimeo.com/776070953) |  |
| H. Wang | FFT in Time series classification | [link](https://vimeo.com/775525695) |  |
| R. Morris | Overview of Deep Reinforcement Learning | [link](https://vimeo.com/776814587) |  |
| P. Herrera | Contrastive Language–Image Pre-training (CLIP) | [link](https://vimeo.com/776053961) |  |
| R. Kim | Machine Translation | [link](https://www.youtube.com/watch?v=_p68wo8oX6Q&ab_channel=RandytheRaindeer) |  |
| I. Mushailov | Applied Game Theory - Past and Present | [link](https://vimeo.com/776464185) |  |
| A. Qureshi | NLP/AI Chatbot | [link](https://vimeo.com/776466448) |  |
| P. Paul | Attention mechanism in Deep Learning | [link](https://www.youtube.com/watch?v=cdFWJdYVhZwlink) |  |
| K. Lockard | BERT: An Overview | [link](https://youtu.be/s2-KR-KZX2M) |  |
| H. Gardner | Page Rank and Citation Analytics | [link](https://youtu.be/MH5ucKlDTTYlink) |  |
| K. Albright | ML Design in military applications | [link](https://youtu.be/fbOLqorSKN4link) |  |
| A. Jasserme | ML2 Final Project: Data Fusion for Automated Driving | [link](https://youtu.be/gvuNc7OTqRUlink) |  |
| J. Reed | Machine Learning Interpretability | [link](https://vimeo.com/manage/videos/775891106link) |  |
| D. Herring | Machine Learning: Helping women detect breast cancer earlier | [link](https://www.canva.com/design/DAFTKpx5aa8/gPo5gd5Py8dt2_mWJMyS-A/view?utm_content=DAFTKpx5aa8&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink) |  |
| J. Herbaugh | Vision Transformers | [link](https://youtu.be/pqcMG2oxcKU) |  |
| R. Burigo | Neural Style Transfer | [link](https://vimeo.com/manage/videos/733451362/2ec4a0db67) |  |
| D. Bowerman | Gradient Tree Boost Project | [link](https://youtu.be/HB1JTSv9tmU) |  |
| S. VonPaays Soh | Bayesian Algorithm on AV | [link](https://vimeo.com/manage/videos/732977946) |  |
| D. Loveday | Meta-Learning | [link](https://www.youtube.com/watch?v=dnqL06t8_zc) |  |
| J. Woodall | Reinforcement Learning: Training Agents to Perform Various Tasks | [link](https://www.youtube.com/watch?v=dNoeaEdPEy4) |  |
| G. Katta | Convolutional Neural Network | [link](https://youtu.be/6sCZ3ibYqM4) |  |
| K. Herman | A Comparison of Pretrained Language Models | [link](https://youtu.be/uDY145NE0oA) |  |
| R. Tchegui | L1 and L2 Regularization Method | [link](https://vimeo.com/732143473/768bc297d8) |  |
| Z. Harris | Bandit Algorithms and Recommender Systems | [link](https://vimeo.com/733869153) |  |
| A.Mittal | Adam Optimizer | [link](https://vimeo.com/732795142) |  |
| R. Patel | Auto-Regressive Models | [link](https://youtu.be/KJ8W1atKHls) |  |
| A Gilbert | Exploring Machine Learning in Video Games | [link](https://www.youtube.com/watch?v=c_Kborchz00) |  |
| Rick Fontenot | Ensemble Deep Learning | [link](https://youtu.be/vC2ytNhvDnA) |  |
| Chance Robinson | Transfer Learning with BERT | [link](https://youtu.be/XUBTGMUtMSg) |  |
| B. Brewer | Generative Adversarial Networks | [link](https://vimeo.com/407372344) |  |
| Y. Leung | Monte Carlo Markov Chain | [link](https://vimeo.com/408298262) |  |
| J. Partee | Hidden Markov Models - Why Bother? | [link](https://vimeo.com/409282673) |  |
| K. Chang | Collaborative vs. Content Filtering: User Targeting | [link](https://vimeo.com/409343548) |  |
| R. Chandna | Modelling Sequential Data: From RNNs to LSTM | [link](https://vimeo.com/406382926) |  |
| A. Rajan | Graph Analytics | [link](https://vimeo.com/404778103) |  |
| D. Kunupudi | Reinforcement Learning from mathematical perspective | [link](https://vimeo.com/408270171) |  |
| S. Godbole | Math behind Backpropagation | [link](https://vimeo.com/406693821) |  |
| Y. Chu | Backpropagation in Convolutional Neural Network Clearly Explained | [link](https://vimeo.com/408704290) |  |
| A. Cattley | Advanced Loss Functions | [link](https://vimeo.com/407773598) |  |
| M. J. Wolfe | SVM’s - the Swiss Army algorithm | [link](https://vimeo.com/407015687) |  |
| A. Ansari | Evaluation Metrics for Unsupervised Learning | [link](https://vimeo.com/406960633) |  |
| A. Nguyen | Singular Value Decomposition of Movie Rating Matrix | [link](https://vimeo.com/405610785) |  |
| B. Lee | The Math Behind XGBoost | [link](https://vimeo.com/409205208) |  |
| K. Somes | Bayesian Hierarchical Modeling’ | [link](https://vimeo.com/408185476) |  |
| A. Heroy | Comparing Gradient Descent Optimizers | [link](https://youtu.be/DGxpQSfLrB8) |  |
| R. Hazell | Connecting the Beta and Binomial Distribution with Bayes’ Theorem | [link](https://vimeo.com/406637448) |  |
| B. Arendale | Partial Least Squares Regression | [link](https://vimeo.com/409187118) |  |
| R. Quincy Paul | Looking at the math behind attention | [link](https://vimeo.com/404908455) |  |
| K. Patterson | Logistic Regression | [link](https://vimeo.com/409272295) |  |
| L. Zheng | Hyperparameter Search with Differential Evolution Optimization | [link](https://vimeo.com/409517222) |  |
| P. Kumar | Activation Functions: Focusing Sigmoid | [link](https://vimeo.com/406676582) |  |
| A. Norman | Solving Non-Convex Optimization Problems with Gradient Descent | [link](https://vimeo.com/407637463) |  |
| A. Garapati | Primer to VC Dimensions | [link](https://vimeo.com/407035007) |  |
| C. Henderson | Anomaly Detection | [link](https://vimeo.com/user112255315/review/409841056/fde8a0033f) |  |
| J. Munguia | Autoencoders | [link](https://vimeo.com/410907376) |  |
| T. Pompo | Attention Based Neural Networks and the Transformer | [link](https://vimeo.com/331154806) |  |
| C. Kim | Mini-Batch Gradient Descent | [link](https://vimeo.com/332599158) |  |
| A. Wilkins | Optimization using Lagrange Multipliers | [link](https://vimeo.com/375546007) |  |
| T. Deason | Markov chains and use in Monte Carlo Simulation | [link](https://vimeo.com/330089338) |  |
| M. Garcia | Gradient Descent | [link](https://vimeo.com/376607074) |  |
| L. Jiang | Math behind XGB | [link](https://vimeo.com/377195247) |  |
| B. Wilke | Backpropagation in neural networks | [link](https://vimeo.com/377087221) |  |
| D. Josephs | Tools for Interpretable ML & Mathematical Formulation | [link](https://youtu.be/Xn9pxblaoCs) |  |
| Z. Gill | Bagging Variance Reduction | [link](https://vimeo.com/373773942) |  |
| R. Talk | Pooling in Convolutional Neural Network | [link](https://vimeo.com/331347019) |  |
| S. Mylapore | Attention Model | [link](https://vimeo.com/372938253) |  |
| M. Moro | Deep Learning for Survival Analysis | [link](https://vimeo.com/376079533) |  |
| W. Trevino | Time series beyond ARIMA and LSTM | [link](https://vimeo.com/377815403) |  |
| S. Hayden | Bayesian model | [link](https://vimeo.com/377203744?utm_source=email&utm_medium=vimeo-cliptranscode-201504&utm_campaign=28749) |  |
| J. Au | Math behind stochastic gradient descent | [link](https://vimeo.com/375571216) |  |
| J. Gipson | Backpropagation of NN to Reduce Refinery Product Giveaway | [link](https://vimeo.com/374999135) |  |
| J. Pafford | A detailed look at NLP | [link](https://vimeo.com/374965463) |  |
| M. Ludlow | Bayesian Networks | [link](https://vimeo.com/376658452) |  |
| A. Ho | Loss Functions | [link](https://vimeo.com/376895893) |  |
| N. Wittlin | Distance Metrics in Machine Learning | [link](https://vimeo.com/377364761) |  |
| C. Hu | Few shot learning with memory-augmented NN | [link](https://vimeo.com/377830326) |  |
| S. Garcia de Alford | Long Short Term Memory, an Overview | [link](https://vimeo.com/377010120) |  |
| J. Vasquez | Feature Selection, What’s really important | [link](https://www.amazon.com/photos/shared/NkWz2Zu3R1mNlJwql-jOAw.xV2Vl6Ue8JD9U_CafLDJvV) |  |
| P. Byrd | Vanishing Gradient Descent issue with RNN | [link](https://vimeo.com/378037035) |  |
| G. Kodi | Math behind SVM Kernel | [link](https://vimeo.com/378037194) |  |
| S. Sprague | Math behind LSTM’s (Forget Gate) | [link](https://vimeo.com/378038517) |  |
| B.A. Kannan | Matrix Factorization - Singular Value Decomposition | [link](https://vimeo.com/378221527) |  |
| K. Rollins | Gradient Descent Optimization Algorithms | [link](https://vimeo.com/378068225) |  |
| N. Gupta | How to build and tune and DL model effectively | [link](https://vimeo.com/378095258) |  |
| B. Coari | Alpha Zero Machine Learning Solution to All Queens Chess | [link](https://vimeo.com/377967955) |  |
| J. Saldana | Reinforcement Learning w/ Greedy K-Armed Bandits | [link](https://vimeo.com/378072798) |  |
| D. Byrne | Links between Signal Processing and Machine Learning | [link](https://vimeo.com/354258625) |  |
| S.Gozdzialski | Multi-arm Bandit | [link](https://vimeo.com/329712885), [ref](https://vimeo.com/330642307) |  |
| K. Mendonsa | Topic: Recurrent Neural Network and LSTMs | [Link:](https://vimeo.com/354002241) |  |
| S. Cocke | Gini impurity vs Entropy in Random Forest Classifier | [link](https://vimeo.com/354288297) |  |
| J.Villanueva | Quantifying Influential Observations and its Effects on ML A | [link](https://vimeo.com/354547801) |  |
| C. Kim | Mini-Batch Gradient Descent | [link](https://vimeo.com/332599158) |  |
| P. Leon | Machine Learning Platforms | [link](https://vimeo.com/353861670) |  |
| P. Flaming | Model Optimization with Monte Carlo methods in Kernel Conditional Density Estimates for Regression Tasks. | [link](https://vimeo.com/354094513), [ref](https://arxiv.org/pdf/1206.5278.pdf) |  |
| C. Graves | Homomorphic Encryption for Machine Learning | [link](https://vimeo.com/353928524) |  |
| D. Stroud | Kernel Methods | [link](https://vimeo.com/354119216) |  |
| S. Chew | XGBoost Algorithm | [link](https://vimeo.com/354197085) |  |
| J. Lancon | Boosting, Bagging, and Stacking (Ensemble methods) | [link](https://vimeo.com/354059951) |  |
| V. Viswanathan | Stochastic Gradient Descent for Machine Learning | [link](https://vimeo.com/353454651) |  |
| S. Samuel | End-To-End ML Pipeline with Fairness Policies | [link](https://vimeo.com/354077490) |  |
| A. Mohan | PCA | [link](https://vimeo.com/353894048) |  |
| A. Subramanian | CycleGAN | [link](https://vimeo.com/353483822/) |  |
| A. Saxena | Dropout vs Regularization in neural network | [link](https://vimeo.com/330627422) |  |
| I. Bakhtiar | Balanced and Imbalanced Datasets, handling techniques imbalanced data | [link](https://vimeo.com/354139017) |  |
| D. Geislinger | Learn about Capsule Networks and how they can be useful for image classification | [link](https://vimeo.com/331923943) |  |
| M. Kuklani | KNN and the Importance of Distance Metrics in Machine Learning Modelling | [link](https://vimeo.com/353629475) |  |
| M. Hightower | Word2Vec | [link](https://vimeo.com/353156338) |  |
| B. Houssaye | Feature Selection | [link](https://vimeo.com/354134978) |  |
| A. Veluchamy | Sentiment Analysis using Deep Learning | [link](https://vimeo.com/329937534) |  |
| S. Milett | Image denoising using Autoencoders (password test) | [link](https://vimeo.com/328877135) |  |
| N. Wall | Gradient Weighted Class Activation Mapping | [link](https://vimeo.com/331118286) |  |
| K. Thomas | Support Vector Data Description (SVDD) | [link](https://vimeo.com/327587455), [ref](https://vimeo.com/330565199) |  |
| C. Martinez | Time Series Classification | [link](https://vimeo.com/331204137) |  |
| S. Gu | High Dimensional Data Visualization Using t-SNE | [link](https://vimeo.com/331798056) |  |
| K. Dickens | SVM Kernel | [link](https://vimeo.com/329844779) |  |
| J. Heinen | Topic Modeling: LDA (Latent Derilicht Analysis) vs. NMF (Non-negative Matrix factorization) | [link](https://vimeo.com/317839315) |  |
| K. Okiah | How is Gini impurity used in Random Forest Classifier? | [link](https://vimeo.com/329503128) |  |
| M. Palanisamy | Reinforcement Learning | [link](https://vimeo.com/332024768) |  |
| N. Brown | Distributed Representations | [link](https://vimeo.com/326181155) |  |
| L. Sterling | Self Organizing Maps | [link](https://vimeo.com/329730066) |  |
| A. Siddiqui | Bayesian optimization | [link](https://vimeo.com/330642527) |  |
| D. Davieau | Why computations in Deep Learning work better on GPU's. Explain what a deep learning algorithm is doing on a 4/8 core CPU and why a GPU of about the same cost can do it much faster. | [link](https://vimeo.com/327587530) |  |
| C. Morgan | An introduction to how Recurrent Neural Networks work | [link](https://vimeo.com/330697129) |  |
| L. Cheng | Hidden Markov model( password hmm) | [link](https://vimeo.com/330876581) |  |
| B. Yu | Introduction of Boosting Algorithm | [link](https://vimeo.com/330406383) |  |
| E. Carrera | Connection between gradient descent and gradient boosting | [link](https://vimeo.com/329768724) |  |
| M. Toolin | Bayesian Networks | [link](https://vimeo.com/331672440) |  |
| M. Rega | Boosted Logistic Regression Models | [link](https://vimeo.com/329447110) |  |
| J. Lingle | RELU overview | [link](https://vimeo.com/331603307) |  |
| B. Kimbark | Unsupervised Learning in Cybersecurity | [link](https://vimeo.com/331712676) |  |
| R. Bss | use of backward propagation algorithm in NN | [link](https://vimeo.com/330342948) |  |
| R. Simhambhatla | : Transfer Learning in machine learning. | [link](https://vimeo.com/330241358) |  |
| J. Kassof | Random Subspace Method/Feature Bagging | [link](https://vimeo.com/331728556) |  |
| T. Prasad | Convolutional Neural Networks (CNN) Algorithm | [link](https://vimeo.com/330377126), [ref](https://vimeo.com/330687182) |  |
| N. Rezsonya | Introduction of ensemble methods-- Bagging (password thanksverycool) | [link](https://vimeo.com/330362842) |  |
| M. Shubbar | ARIMA - A Mathematical Progression | [link](https://vimeo.com/330956683) |  |
| G. Lane | Graph stores and how they work | [link](https://vimeo.com/332563569) |  |
| M. Luzardo | Semi-supervised learning applied to multi-target regression | [link](https://vimeo.com/331900000) |  |
| A. Nelson | Neural Network Optimization Functions | [link](https://vimeo.com/331130784) |  |
| B. Benefield | SVM: What makes rbf a better default choice than poly kernel | [link](https://vimeo.com/332309994) |  |
| J. Flores | TF-IDF & Cosine Similarity Optimization for Large Datasets / NLP use case | [link](https://vimeo.com/329257739) |  |
| A. Schams | The APV-MCTS algorithm used by AlphaGo | [link](https://vimeo.com/330563430) |  |
| J. Knowles | 3rd Wave AI - Contextual Reasoning in natural language processing | [link](https://vimeo.com/332116908) |  |
| A. Shen | Multinomial Logistic Regression | [link](https://vimeo.com/329731011) |  |
| M. Shahini | Understanding the Bellman Equation | [link](https://vimeo.com/332588264) |  |
| J. Lubich | How Automatic Hyperparameter Tuning Works in AWS Sagemaker | [link](https://vimeo.com/329469215) |  |
| M. Pednekar | object detection,classification, image processing | [link](https://vimeo.com/331488438) |  |
| R. Nagarajan | Time Series Forecasting Using Artificial Neural Networks(MachineLearning) is the password | [link](https://vimeo.com/331749207) |  |
| M. Shulyk | Understanding Dropout Regularization stage as overfitting is a big concern when using CNN for image recognition | [link](https://vimeo.com/332124958) |  |
| J. Lin | Looking into different algorithms for Panel Data, but mainly looking at CNN. | [link](https://vimeo.com/330554084) |  |
| J. Marin | Association Rules/Market Basket Analysis | [link](https://vimeo.com/330362722) |  |
| S. Fite | SVM Math principles and how its used human trafficking (more focus on the math, just tying it back to some HT applications and data). | [link](https://vimeo.com/330144325) |  |
| V. Ahir | Impact of Limited Numerical Precision on neural network training | [**link**](https://vimeo.com/328984545) |  |
| L. Dajani | CNN Optimizers with a focus on adam on simple facial image recognition. | [link](https://youtu.be/sQtjWMpAmCE) |  |
| A. Burnett | Decision Trees/Random Forest with a focus on Gini Impurity | [**link**](https://youtu.be/k_8mLKt1Ikc) |  |
| J. Harding |  | [link](https://vimeo.com/440117262) |  |
| Philip | **BOP: Benchmark for 6D Object Pose Estimation** | [Link](https://youtu.be/k3hwzoFEP7A), [Link](https://www.youtube.com/watch?v=D3Ii0ospDeM) |  |
| J.Tan | Basis Splines | [Link](https://vimeo.com/442754195) |  |
| T. Gianelle | Self-Driving vehicle algorithmic steps: Prediction (Back-Progation), | [Link](https://vimeo.com/441885813) |  |
| A. Pathak | Analysis of Clustering Algorithms in Data Mining | [Link](https://vimeo.com/442924951) |  |
| S. Jung | Log Sum Exp or Softmax trick to tackle underflow in Machine Learning | [Link](https://vimeo.com/442854163) |  |
| J. Howard | The Physics of Neural Network Optimization: How adding momentum helps find the global minimum | [Link](https://vimeo.com/442553611) |  |
| A. Faltesek | DBScan clustering algorithm’s use for determine error in map data | [Link](https://vimeo.com/442568234) |  |
| L. Clinton | Deep dive into Adam Optimizer and gradient descent | [link](https://vimeo.com/444990121) |  |
| K. Pradeepkumar | Lagrange multipliers and its relevance in SVMs | [Link](https://vimeo.com/445067207) |  |
| R. Djoko | Graph Analytic Forr Data Science | [Link](https://vimeo.com/445339796) |  |
| D. Shaw | Introduction to Quantum Walks | [Link](https://vimeo.com/442922942) |  |
| S. Kennedy | Neural Network From Scratch Using QuTiP | [Link](https://vimeo.com/448676233) |  |
| E. Fry | [Mathematics of Support Vector Machines](https://vimeo.com/442568097) | [Link](https://vimeo.com/442568097) |  |
| B. Stephan | Word Embeddings and Word2Vec | [Link](https://youtu.be/Mxo7O0a4a2I) |  |
| B.Waite | Differential Privacy Overview | [Link](https://vimeo.com/440117262) |  |
| J. Coate | The Markov Decision Process | [Link](https://vimeo.com/480037356) |  |
| P. Adams | Multi-Head Attention in Transformer Networks | [Link](https://vimeo.com/478064759) |  |
| S.t Miller | Embeddings from Language Models (ELMo) | [Link](https://vimeo.com/477833481) |  |
| K. Ayala | A Description of BERT and Attention | [Link](https://youtu.be/53K6BtF3sbY) |  |
| R. Meagher | Distance Metrics in Classification Algorithms | [Link](https://youtu.be/fYIQo7-Q5Kc) |  |
| S. Pillay | Bias Variance Tradeoff In Supervised and Reinforced Learning | [Link](https://youtu.be/TC8qsXxkqrA) |  |
| A. Mejia | Radon-Nikodym Derivative | [Link](https://vimeo.com/473521044?utm_source=email&utm_medium=vimeo-cliptranscode-201504&utm_campaign=28749) |  |
| P. Huggins | Fuzzy Clustering Cost Functions | [Link](https://vimeo.com/574700938) |  |
| H. Wang | Automatic Machine Learning | [Link](https://youtu.be/FbpYK8weqis) |  |
| M. Riley | Fairness in Machine Learning Algorithms | [Link](https://vimeo.com/486574567) |  |
| R. McDaniel | Bellman Equation | [Link](https://vimeo.com/480567497/20c0177363) |  |
| H. Nguyen | Stochastic Optimization for Machine Learning | [Link](https://youtu.be/SBfXC8sQ2PE) |  |
| S.n McWhirter | Randomized SVD | [Link](https://vimeo.com/477424743) |  |
| C. Nava | L1 and L2 Regularization: Hard and Soft Constraints | [Link](https://vimeo.com/479835454) |  |
| J. Roach | Regularization in Machine Learning | [Link](https://youtu.be/QxsHdumIexY) |  |
| T. Abera | Mathematics behind Support Vector Machines | [Link](https://vimeo.com/479475610) |  |
| S. Chavan | Latent Dirichlet Allocation | [Link](https://vimeo.com/479723428) |  |
| Y. Zhang | Normalization Methods in Deep Learning | [Link](https://vimeo.com/478700010) |  |
| I. Nwaogu | Markov Equivalence Classes of Directed Acyclic Graphs(Bayesian approach) | [Link](https://youtu.be/TUSTIlZAXOY) |  |
| A. Bravo | Bayesian vs. Frequentist Approach in Probability and Machine Learning | [Link](https://vimeo.com/478297493) |  |
| J. Balson | On the shortest spanning subtree of a graph and the traveling salesman problem | [Link](https://vimeo.com/486640529/f944c63d13) |  |
| S. Smith | Quantization of Neural Networks | [Link](https://vimeo.com/479673570) |  |
| F. Poon | Backpropagation, How Neural Networks Learn | [Link](https://vimeo.com/479699839) |  |
| Balaji | Generative Adversarial Networks - Loss function | [Link](https://vimeo.com/manage/videos/529193835) |  |
| F.Savorgnan | Detection of cardiac electrical instabilities prior to cardiac arrest Attention Mechanism | [Link](https://vimeo.com/528408086) |  |
| Balaji | [Generative Adversarial Networks](https://vimeo.com/manage/videos/529193835) |  |  |
| D. Bracy | Pruning Deep Neural Nets to Optimize Size and Speed  Link: <https://vimeo.com/535403517> |  |  |
| A. Larsen | [Four Color Theorem](https://vimeo.com/523550186) |  |  |
| D.Clark | Deep Learning with Long-Short Term Memory Networks | [Link](https://vimeo.com/530158888) |  |
| A. Roderick | Adam Optimization Algorithm | [Link](https://youtu.be/OhZEjj0e1rk) |  |
| M. Nelson | Validity of Imputed Data | [Link](https://youtu.be/VpOStijVVuM) |  |
| D. Crouthamel | Auto Encoders and Variational Auto Encoders | [Link](https://youtu.be/4BvQMSOvb9w) |  |
| P. Rai | Understanding Back Propagation Neural Network | [Link](https://vimeo.com/528110559) |  |
| M. Chinchilla | Shor’s Algorithm and Quantum Computers | [Link](https://vimeo.com/531503489) |  |
| A.Ghaemmaghami | Gradient Descent Variants and Optimizers | [Link](https://vimeo.com/531515672) |  |
| J. Schueder | Edit Distance/Levenshtein distance | [Link](https://youtu.be/ewSxs2JB9Hw) |  |
| M. Kimari | : Effects of Learning Rate in Neuron Network | [Link](https://vimeo.com/531078474) |  |
| V. Kaniti | :LTSM- Long Short Term Memory Networks | [Link](https://vimeo.com/531104210) |  |
| D. Ibrahim | Beam Search and How it Finds the Best Candidates to Reach the Goal | [Link](https://youtu.be/9Pb_MyTTs8A) |  |
| A. Vankina | Mel Frequency Cepstral Coefficient (MFCC) and how its used in Automatic Speech Recognition (ASR) | [Link](https://youtu.be/iX-tupzs4Mw) |  |
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| Y. Zhang2 | Math Behind Gradient Descent(mini-batch gradient descent) | [Link](https://vimeo.com/535602663) |  |
| S. Prabhala | Frank-Wolfe Algorithm | [Link](https://www.youtube.com/watch?v=Gi3MvSqq0uo) |  |
| A. Vel | XGBoost | [Link](https://vimeo.com/529741546) |  |
| J. Stacy | NEAT (NeuroEvolution of Augmenting Topologies) | [Link](https://www.youtube.com/watch?v=CbI4Xh15_n8) |  |
| J. Nguyen | BERT Attention Mechanisms | [link](https://youtu.be/kKmPFVRc7-A) |  |
| T. Pengilly | Generative Adversarial Networks (GANs) | [Link](https://youtu.be/sf2-gfgveuU) |  |
| Q. Chau | Hyperparameter Tuning and Bayesian Optimization | [Link](https://www.youtube.com/watch?v=lmssCwUs_1A) |  |
| B. Dakshinamoorthi | [Frank-Wolfe Algorithm- Every Data Scientist Must Need To Know and its Usage.](https://youtu.be/EVRpsMvjwfQ) | [link](https://youtu.be/EVRpsMvjwfQ) |  |
| N. Dixit | [Convolutional Neural networks Feature Map - YouTube](https://www.youtube.com/watch?v=eMuUsJyy2c4) | [Link](https://www.youtube.com/watch?v=eMuUsJyy2c4) |  |
| C. Dawson, | Loss-Function in Deep Survival Analysis | [Link](https://www.youtube.com/watch?v=xigECVV--6w) |  |
| J. Vo | Self-Attention | [Link](https://vimeo.com/574746709) |  |
| J. Rupp | Data Compression | [Link](https://vimeo.com/582966644) |  |
| A. Canton | KL Divergence (and symmetric KL Divergence) in Text Classification | [Link](https://vimeo.com/581817424) |  |
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| M. Weatherford | Jaccard Index or Jaccard Similarity Coefficient | [Link](https://youtu.be/G4CfWxBQYFw) |  |
| Y. Shin | Transformer Neural Network | [LInk](https://vimeo.com/581966106) |  |
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| S. Mani | Understanding how CNN algorithm works in terms of image classification | [Link](https://vimeo.com/695520630) |  |
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| Kevin Boyd | Graph Based Image Segmentation | [link](https://www.youtube.com/watch?v=-VKykPZkx7c) |  |
| Laura Ahumada | Transformers | [Link](https://youtu.be/J38Z67hdvkU) |  |
| Allen Hoskins | Benford’s Law | [link](https://youtu.be/onKmyFdqN7I) |  |
| Eric Laigaie | Gibbs Sampling (Canva Link) | [link](https://www.canva.com/design/DAFdrDowgr4/0sOmHHlTaZ5dxULVX2HBoQ/view?utm_content=DAFdrDowgr4&utm_campaign=designshare&utm_medium=link&utm_source=recording_view) |  |
| Jason McDonald | BERT to the Rescue | [Video](https://www.youtube.com/watch?v=Q9wiKIxKj9E)  [Slides](https://docs.google.com/presentation/d/1UyS4lL80EQdxPbWtOUmLSBngXbgRwQh0CAgRWPs_1nw/edit?usp=sharing) |  |
| Joaquin Dominguez | Merging Models by Weights with Git Re-Basin | [Video](https://vimeo.com/815794131)  [Slides](https://www.canva.com/design/DAFfJ9Elo5I/SIv_DibbXoiUkOvllFnS-w/edit?utm_content=DAFfJ9Elo5I&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton) | 🎉 |
| Richard Kim | The Kernel Trick and How It Works | [link](https://www.youtube.com/watch?v=CtQ5iTD2JaA) |  |
| Jeremy Dawkins | Pareto Distributions and Temporal CN | [video\_link](https://youtu.be/PhMSlYP54sA) |  |
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| Shikha Pandey | Hidden Markov Models | [Link](https://smu.box.com/s/4quwm3ny7aa259t628dgrmmp26doxcbe) |  |
| Luke Stodgel | Kullback–Leibler divergence | [link](https://youtu.be/ZLkSOS4QFsE) |  |
| Tavin Weeda | No General Solution Involving Radicals for Quintic Polynomials | [Video](https://www.youtube.com/watch?v=v5yMekTiN_0)  [PowerPoint](https://smu365-my.sharepoint.com/:p:/g/personal/tweeda_smu_edu/EYHUJtnBy71Ig4iIzHlFbTgBZD2MD_bNtcQuBKncfzu5NA?e=jsB9BK) |  |
| Jacob Gipson | Using XGBoost to make 4th Down Recommendations | [Link](https://youtu.be/vvth8H91dT4) |  |
| **Chad Kwong** | The Complexity of the Metropolis Hastings Algorithm | [Link](https://www.youtube.com/watch?v=VezA3cJzJHc) |  |
| Hien Lam | Retrieval-Augmented Generation for Knowledge Intensive NLP Tasks | [LINK](https://smu.zoom.us/rec/play/S8PAj-0bCCUBBBH09zOrIfeu-ZOVxjwVHH8kdaxUEksqpAd4_Kjt4fW4qk8wkct_vDyzIMilaFNKVKdF.nuE7MmXRRj0qvjFm) |  |
| Braden Anderson | Energy Based Models | Check Canvas! |  |
| Robert Price | MCMCs and the Metropolis-Hastings Algorithm | [LINK](https://youtu.be/I8nQmYwZH1k) | Slides on Canvas |

Remember it's here!

data = [(('V. Viswanathan', 'L. Sterling'),1), (('S. Samuel', 'J. Heinen'),0), (('K. Dickens', 'J. Lubich'),1), (('R. Bss', 'J. Lin'),0), (('L. Cheng', 'M. Hightower'),0), (('D.Stroud', 'N. Rezsonya'),0), (('N. Brown', 'J. Lancon'), 0), (('J. Marin', 'A. Shen'), 1), (('T. Pompo', 'A. Siddiqui'), 0),(('D. Byrne', 'T. Deason'), 1), (('C. Graves', 'C. Kim'), 1), (('D. Davieau', 'Q.Nixon'), 0), (('A. Schams', 'M. Shubbar'), 1),(('M. Pednekar', 'A. Mohan'), 1), (('A. Shen', 'S. Gu'), 0) , (('L. Dajani', 'D. Byrne'), 0), (('S.Gozdzialski', 'J. Marin'), 1) , (('C. Graves', 'M. Palanisamy'), 1), (('A. Saxena', 'J. Lancon'), 0), (('K. Mendonsa', 'M. Shulyk'), 1), (('D.Stroud', 'J. Lingle'), 0), (('J. Lingle', 'C. Kim'), 1), (('J. Lin', 'C. Kim'), 1), (('J. Lin', 'N. Rezsonya'), 0), (('C. Morgan', 'S. Samuel'), 1), (('D. Byrne', 'M. Kuklani'), 1), ( ('T. Pompo', 'M. Ahluwalia'), 0) , ( ('C. Kim', 'J. Heinen'), 0), (('M. Toolin', 'S. Milett'), 0), ( ('G. Lane', 'M. Palanisamy'),1), ( ('T. 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