Articles:

Trajectory Optimization with Nonlinear Optimization

https://thomas-godden.medium.com/how-spacex-lands-starship-sort-of-ee96cdde650b

Youtube Videos

SINDY with Control

https://youtu.be/vuJCOfdlN6Q?si=BAjono4PO7Gxn_S1

Embedded Convex Optimization for Control

https://youtu.be/EwYgjTAagXQ?si=CccyTXEunW-zP9G5

TCOptRob Seminar: Numerical Optimization for Nonlinear Model Predictive Control

https://youtu.be/-7KsCywg3nI?si=y_N-ZqlYcIu7FyoJ

RSS 2020, Spotlight Talk 87: Deep Learning Tubes for Tube MPC

https://youtu.be/jD73lPkrUrg?si=0EBUKrPgei2Wmq-A

Data-driven MPC: From linear to nonlinear systems with guarantees

https://youtu.be/9GP1dmj58cw?si=sq2gnw7iMHZcZoo_

Alberto Bemporad | Embedded Model Predictive Control

https://youtu.be/ugeCx1sytNU?si=e1iIRuK_Bx48SjeR

Mark Cannon - Adaptive Model Predictive Control: Robustness, Performance Enhancement & Param. Estim.

https://youtu.be/FZOYzOb-8vI?si=rbxyTSUUswpBSzST

MPC from Basics to Learning-based Design (1/2)

https://youtu.be/CNwV5GbTEGM?si=Bikc5fMdHu5Mqt64

Sparse Identification of Nonlinear Dynamics for Model Predictive Control

https://youtu.be/MuT2ZzgS4DI?si=guJ8ITVJs_V-o3uv

Online Parameter Estimation and Adaptive Control

https://youtu.be/KAHBUtwWHSg?si=W7pWVeJUKfqHjOkT

Progress in Symmetry Preserving Robot Control

https://youtu.be/h8rFXjUP_UU?si=Z4nlQfX1Xvcre-iE

MPCC with Gaussian Process Based Model Learning for Autonomous Racing

https://youtu.be/-cdXw1MyTUA?si=0HyHKWyOT6rnnbFM

Funnel Libraries for Real-Time Robust Feedback Motion Planning (Anirudha Majumdar)

https://youtu.be/BgK4iTv5bjw?si=gJ07h4A5-NXkk48J

Koopman Theory with inputs and control

https://youtu.be/busDp52Md6w?si=CqYpFaCvSW0Rj5Yk

What Is Model Reference Adaptive Control (MRAC)? | Learning-Based Control, Part 3

https://youtu.be/GBBXZXmb8UE?si=UtoL1x2onaHUKVwb

Model Reference Adaptive Control Fundamentals - Tansel Yucelen, USF (FoRCE Seminars)

https://youtu.be/c9VwaSEo5t8?si=XLCAYxKicc-4ThWT

A Course on LMIs in Systems and Control

https://youtube.com/playlist?list=PL5ebyVGQORm6n158o-I_liUZ7Q5Od43li&si=X40aqO2VtKoascmI

Matthew Giamou on Convex Relaxations for Geometric Problems in Robotics | Toronto AIR Seminar

https://youtu.be/yRpSAKAjAtE?si=WAhB8esF3aTAz8rg

Control Bootcamp

https://youtube.com/playlist?list=PLMrJAkhIeNNR20Mz-VpzgfQs5zrYi085m&si=MkC3wtkfp4-QdlnI

RI Seminar: Russ Tedrake : Motion Planning Around Obstacles with Graphs of Convex Sets

https://youtu.be/JZokn4Pc-YY?si=wb9wmSftLYi1e0F6

https://youtu.be/KSCC7mVJzaw?si=645wBN_tpiv3YoXl – alternative video

CVXPY: Convex Optimization for Everyone --- Parth Nobel

https://youtu.be/_S_jt0p8qHU?si=6Ige7Q06boNJleFD

ECCV2020 tutorial - Differentiable Optimization Layers - Basic Concepts

https://youtu.be/oCDCtHwU4KY?si=eGUAKFfFt3BeFevy

L4DC 2022 Keynote: Stephen Boyd

https://youtu.be/Gtz4yRUCy4E?si=w4LLXP_WXPTJsoiA

Convex Optimization

https://youtube.com/playlist?list=PLqwozWPBo-FuPu4d9pFOobsCF1vDGdY_I&si=fU93opLrIX-W_N0P

Papers:

SINDy with Control: A Tutorial

https://arxiv.org/pdf/2108.13404#:~:text=The%20SINDy%20and%20SINDy%20with%20control%20algorithms%20identify,have%20relatively%20few%20active%20terms%20in%20the%20dynamics.

Convex Optimization for Trajectory Generation: A Tutorial on Generating Dynamically Feasible Trajectories Reliably and Efficiently

https://ieeexplore.ieee.org/document/9905530

Computational Guidance and Control for Aerospace Systems – Explicit and Implicit SCP for real time trajectory generation, funnel synthesis

https://digital.lib.washington.edu/researchworks/handle/1773/46722

Recommended Textbook:

https://youtu.be/oEXR9EnAtm4?si=IP3mJ_Z-QlFcs9dq

Software:

https://web.stanford.edu/~boyd/papers/cvxpygen.html