

Augustine (Augustinos) D. Saravanos

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PERSONAL

Citizenship: US, Greek

Birth Date: August 31, 1996

EDUCATION

- 2020 - present **Ph.D. in Machine Learning** Atlanta, GA
Georgia Institute of Technology
Thesis: “Distributed Optimization Architectures for Safe Multi-Agent Stochastic Control”
Advisor: Prof. Evangelos Theodorou
GPA: 3.87/4.00
- 2014 - 2019 **Diploma (M.Sc. equivalent) in Electrical and Computer Engineering** Patras, Greece
University of Patras
Thesis: “Nonlinear Model Predictive Control for Space Robotic Systems”
Co-advisors: Prof. Evangelos Papadopoulos, Prof. Nick Koussoulas
GPA: 8.77/10.00 (Excellent)
Class ranking: 2nd (top 1 %) out of 211 students of 2019 class

EXPERIENCE

- 2020 - present **Georgia Institute of Technology**
Graduate Research Assistant, Autonomous Control and Decision Systems Laboratory, Daniel Guggenheim School of Aerospace Engineering

PUBLICATIONS

- 2022 **A.D. Saravanos**, I.M. Balci, E. Bakolas, E.A. Theodorou, “Distributed Model Predictive Covariance Steering,” Under review at *IEEE International Conference on Robotics and Automation (ICRA) 2023*.
- 2022 **A.D. Saravanos**, Y. Aoyama, H. Zhu, E.A. Theodorou, “Distributed Differential Dynamic Programming Architectures for Large-Scale Multi-Agent Control,” Under review at *IEEE Transactions on Robotics*.
- 2022 M.A. Pereira*, **A.D. Saravanos***, O. So, E.A. Theodorou, “Decentralized Safe Multi-Agent Stochastic Optimal Control using Deep FBSDEs and ADMM,” *Robotics: Science and Systems XVIII*, June 27 - July 1, 2022. *Equal contribution.
- 2021 Y. Aoyama, **A.D. Saravanos**, E.A. Theodorou, “Receding Horizon Differential Dynamic Programming Under Parametric Uncertainty,” *60th Conference on Decision and Control*, December 13-15, 2021.
- 2021 **A.D. Saravanos**, A.G. Tsolovikos, E. Bakolas, E.A. Theodorou, “Distributed Covariance Steering with Consensus ADMM for Stochastic Multi-Agent Systems,” *Robotics: Science and Systems XVII*, July 12-16, 2021.

PUBLICATIONS UNDER PREPARATION

- 2022 **A.D. Saravanos**, I.M. Balci, A.G. Tsolovikos, E. Bakolas, E.A. Theodorou, “Distributed Covariance Steering for Large-Scale Multi-Agent Stochastic Control,” To be submitted at *IEEE Transactions on Control of Network Systems*.
- 2022 M.A. Pereira*, **A.D. Saravanos***, E.A. Theodorou, “Distributed Safe Stochastic Optimal Control for Multi-Agent Systems Using Deep FBSDEs,” To be submitted at *IEEE Transactions on Neural Networks and Learning Systems*. *Equal contribution.
- 2022 Z. Wang, **A.D. Saravanos**, H. Almubarak, O. So, E.A. Theodorou, “Sampling-Based Optimization for Multi-Agent Model Predictive Control,” To be submitted at *Journal of Machine Learning Research (JMLR)*.

HONORS/AWARDS

2022	Gerondelis Foundation Fellowship
2021-2025	Onassis Foundation Scholar - Doctoral Fellowship
2019	Salutatorian, Graduating Class of 2019, Department of ECE, University of Patras
2019	Skouras Foundation Scholarship – Top student of the Department of ECE and in top 10 students of the University of Patras for academic year 2018-19
2018	1st & 2nd places, Line Following Robots (Enhanced), Robotex International 2018, Tallinn, Estonia
2017	3rd place, Line Following Robots (Enhanced), Robotex International 2017, Tallinn, Estonia
2013	Bronze medal, European Science Olympiad (EUSO) 2013, Luxembourg
2013	Gold medal, National Science Olympiad 2013, Athens, Greece

SKILLS

Coding Languages:	Python, MATLAB, C/C++
Packages:	CVX/CVXPY, MOSEK, PyTorch, Scikit-learn
IDEs:	Jupyter Notebook, PyCharm, Spyder
Software:	WEKA, LabVIEW, Eagle, PSpice, AutoCAD
Platforms:	Linux, Windows

PROFESSIONAL AFFILIATIONS AND SERVICE

Reviewer	IEEE Transactions on Systems, Man and Cybernetics; Robotics: Science and Systems; IEEE International Conference on Robotics and Automation (ICRA).
Member	IEEE; IEEE Robotics and Automation Society; IEEE Control Systems Society.

LEADERSHIP AND VOLUNTEERING

2017-2020	Member, Robotics Club of University of Patras
2018-2020	Volunteer teacher and trainer, Robots at MET, University of Patras - Taught and trained teams of elementary school students on LEGO Robotics
2016-2020	Member, IEEE Student Branch, University of Patras - TISP (Teacher In-Service Program) Volunteer, Coordinator of Introduction to Coding course for students of the “Skagiopouleio” Orphanage

SELECTED PROJECTS

2022	Federated Distributed Machine Learning for Speech Recognition (Course: Statistical Machine Learning, Prof. Larry Heck)
2022	Generalized Mirror Descent Policy Optimization with Rényi Divergence (Course: Mathematical Principles of Motion Planning, Prof. Panagiotis Tsiotras)
2021	Distributed Covariance Steering with Affine Disturbance Feedback Control Policies (Course: Nonlinear Stochastic Optimal Control, Prof. Evangelos Theodorou)
2020	Constrained Differential Dynamic Programming with ADMM (Course: Optimization-Based Learning, Control and Games, Prof. Kyriakos Vamvoudakis)
2019	Nonlinear Moving Horizon Estimation and Extended Kalman Filter for Nonlinear Systems (Course: Estimation Theory and Stochastic Control, Prof. Nick Koussoulas)
2019	A Variation of Generalized Predictive Control using Linear Programming (Course: Linear and Combinatorial Optimization, Prof. Sofia Daskalaki)

SELECTED GRADUATE-LEVEL COURSEWORK

Georgia Institute of Technology:

Optimization & Machine Learning:	Convex Optimization, Nonlinear Optimization, Mathematical Foundations of Machine Learning, Statistical Machine Learning, Probabilistic Graphical Models in Machine Learning
Control & Robotics:	Nonlinear Stochastic Optimal Control, Optimization-Based Learning, Control and Games, Mathematical Principles of Motion Planning

University of Patras:

Optimization & Machine Learning: Applied Optimization, Linear and Combinatorial Optimization, Artificial Intelligence, Pattern Recognition, Natural Language Processing

Control & Robotics: Linear Systems and Control, Introduction to Robotics Manipulation, Optimal Control, Estimation Theory and Stochastic Control, Fuzzy Control Systems, Digital Control

TEST SCORES




2019 ETS GRE General Test Scores:
Quantitative Reasoning: 170/170 (96th percentile)
Verbal Reasoning: 158/170 (80th percentile)
Analytical Writing: 4.5/6.0 (81st percentile)

LANGUAGES

English (Fluent), Greek (Native), French (Advanced)

REFERENCES

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Georgia Institute of Technology, GA
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and Engineering Mechanics,
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Prof. Evangelos Papadopoulos
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National Technical University of
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