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| CURRENT POSITION | <p>Assistant Professor Department of Mechanical Engineering Department of Electrical Engineering (by courtesy) University of Texas at Dallas 800 West Campbell Rd., EC38 Richardson, TX 75080, USA</p> <p><i>E-mail:</i> tyler.summers@utdallas.edu <i>Phone:</i> (+1) 972.883.4554 <i>Website:</i> http://www.utdallas.edu/~tyler.summers</p> | |
| EDUCATION | <p>University of Texas at Austin, Austin, TX, USA December 2010 Ph.D., Aerospace Engineering Dissertation: “Cooperative Shape & Orientation Control of Autonomous Vehicle Formations”</p> <p>University of Texas at Austin, Austin, TX, USA May 2007 M.S., Aerospace Engineering Thesis: “Decentralized Adaptive Control of Large-Scale Interconnected Systems”</p> <p>Texas Christian University, Fort Worth, TX, USA December 2004 B.S., Mechanical Engineering</p> | |
| RESEARCH INTERESTS | <ul style="list-style-type: none"> • Control, Optimization, and Learning in Complex Dynamical Networks • Distributed Multi-Robot Systems • Power and Energy Systems | |
| PROFESSIONAL & RESEARCH POSITIONS | <p>University of Texas at Dallas, Richardson, TX, USA 08.2015 - present <i>Assistant Professor, Department of Mechanical Engineering</i></p> <p><i>Assistant Professor (by courtesy), Department of Electrical Engineering</i> 08.2015 - present</p> <p>ETH Zürich, Zürich, Switzerland 05.2011 - 07.2015 <i>Postdoctoral Fellow, Automatic Control Laboratory</i></p> <p>The Australian National University, Canberra, Australia 09.2007 - 11.2008 <i>Fulbright Postgraduate Scholar</i> Research School of Information Sciences and Engineering</p> <p>Sandia National Laboratories, Albuquerque, NM, USA 2000 - 2004, 2009 <i>Summer Intern, Supercomputing, Aerospace, Energy Centers</i> <i>Technical Staff, Aerospace Center</i> 01.2005 - 08.2005</p> <p>Air Force Research Laboratories, Dayton, OH, USA 06.2007 - 08.2007 <i>Summer Scholar, Air Vehicles Directorate</i></p> | |
| MAJOR ACADEMIC AWARDS | <p>ETH Postdoctoral Fellowship, ETH Zürich 2011-2014</p> <p>Fulbright Postgraduate Scholarship to Australia, U.S. Department of State 2007-2008</p> <p>U.S. Fulbright Alumni Scholar, <i>highest ranked applicant to Australia</i> 2007-2008</p> <p>Thrust 2000 Graduate Fellowship, University of Texas at Austin 2005-2010</p> <p>Chancellor’s Scholarship, Texas Christian University 2000-2004</p> | |

FUNDED
RESEARCH
PROJECTS

Project title: *CRII: CPS: Designing Resilient Strategies and Information Structures for Team Games in Cyber-Physical Networks*
Sponsor: **National Science Foundation**, Grant CNS-1566127
PI: Tyler Summers
Total award amount: \$167,591
Period: July 2016 - June 2018.

Project title: *Quantifying network controllability and observability using optimal control and estimation metrics*, **Young Investigator Award (YIP)**
Sponsor: **Army Research Office**
PI: Tyler Summers
Total award amount: \$351,568
Period: January 2017 - January 2020.

Project title: *Collaborative Research: Selecting sensors and actuators for topologically evolving networked dynamical systems: Battling contamination in water networks*
Sponsor: **National Science Foundation**, Grant CMMI-1728605
PI: Tyler Summers (UT Dallas)
PI: Ahmad Taha, Co-PIs: Nikolaos Gatsis, Marcio Giacomoni (UT San Antonio)
Total award amount: \$150,001
Period: August 2017 - July 2020.

PUBLICATIONS

Citation Indices (by Google Scholar, as of September 2018)
total: 1114, h-index: 18, i10-index: 25

JOURNAL
PUBLICATIONS

Peer-Reviewed Journal Articles

1. K. Fathian, S. Safaoui, T.H. Summers, N. Gans, "Robust Distributed Planar Formation Control for Higher-Order Holonomic and Nonholonomic Agents", *IEEE Transactions on Robotics*, submitted 2018.
2. E. Bolivar, S. Rezazadeh, T.H. Summers, R. Gregg, "Robust Optimal Design of Series Elastic Actuators: Application to a Powered Prosthetic Ankle", *IEEE Robotics and Automation Letters*, submitted 2018.
3. S. Nugroho, A. Taha, N. Gatsis, T.H. Summers, R. Krishnan, "Algorithms for Joint Sensor and Control Nodes Selection in Dynamic Networks", *Automatica*, submitted 2018.
4. V. Renganathan, S. Safaoui, K. Fathian, T.H. Summers, "Spoof Resilient Coordination in Distributed and Robust Robotic Networks", *Autonomous Robots*, submitted 2018.
5. Y. Guo, K. Baker, E. Dall'Anese, Z. Hu, T.H. Summers, "Data-Based Distributionally Robust Stochastic Optimal Power Flow, Part I: Methodology", *IEEE Transactions on Power Systems*, to appear, 2018.
6. Y. Guo, K. Baker, E. Dall'Anese, Z. Hu, T.H. Summers, "Data-Based Distributionally Robust Stochastic Optimal Power Flow, Part II: Case Studies", *IEEE Transactions on Power Systems*, to appear, 2018.
7. A. Taha, N. Gatsis, T.H. Summers, N. Nugroho, "Time-varying sensor and actuator selection for uncertain cyber-physical systems", *IEEE Transactions on Control of Network Systems*, to appear, 2018.
8. K. Fathian, T.H. Summers, N. Gans, "Robust Distributed Formation Control of Agents With Higher-Order Dynamics", *IEEE Control Systems Letters*, Vol. 2, No. 3, (July 2018):495-500.
9. M. Colombino, R. Smith, T.H. Summers, "Mutually quadratically invariant information structures in two-team stochastic dynamic games", *IEEE Transactions on Automatic Control*, Vol. 63, No. 7, (July 2018):2256-2263.

10. N. Kariotoglou, M. Kamgarpour, T.H. Summers, J. Lygeros, “The linear programming approach to reach-avoid problems for Markov decision processes”, *Journal of Artificial Intelligence Research*, Vol. 60 (October 2017), 263-284.
11. E. Dall’Anese, K. Baker, T.H. Summers, “Chance-constrained AC optimal power flow for distribution systems with renewables”, *IEEE Transactions on Power Systems*, Vol. 32, No. 5 (September 2017): 3427-3438.
12. I. Shames, F. Farokhi, T.H. Summers, “Security analysis of cyber-physical systems using \mathcal{H}_2 norm”, *IET Control Theory and Applications*, Vol. 11, No. 11 (July 2017):1749-1755.
13. T.H. Summers, F. Cortesi, J. Lygeros, “On submodularity and controllability in complex dynamical networks”, *IEEE Transactions on Control of Network Systems*, Vol. 3, No. 1 (March 2016):91-101.
14. P. Beuchat, J. Warrington, T.H. Summers, M. Morari, “Piecewise affine bounds for power system dispatch using generalized multistage policies”, *IEEE Transactions on Power Systems*, Vol. 31, No. 1 (January 2016):474-484.
15. T.H. Summers, J. Warrington, M. Morari, J. Lygeros, “Stochastic optimal power flow based on conditional value at risk and distributional robustness”, *International Journal of Electric Power and Energy Systems*, Vol. 72 (November 2015):116-125.
16. I. Shames, T.H. Summers, “Rigid network design via submodular set function optimization”, *IEEE Transactions on Network Science and Engineering*, Vol. 2, No. 3 (July 2015):84-96.
17. N. Kariotoglou, M. Kamgarpour, T.H. Summers, J. Lygeros, “Upper bounds for the reach-avoid probability via robust optimization”, arXiv:1506.03371v1, manuscript, 2015.
18. T.H. Summers, I. Shames, “Active influence in dynamical models of structural balance in social networks”, *Europhysics Letters*, Vol. 103, No. 1 (July 2013):18001:1-6.
19. T.H. Summers, C. Yu, B.D.O. Anderson, S. Dasgupta, “Control of leader-remote-follower and coleader formations in the plane”, *IEEE Transactions on Automatic Control*, Vol. 56, No. 12 (December 2011):2778-92.
20. T.H. Summers, C. Yu, B.D.O. Anderson, “Addressing agent failure in vehicle formations and sensor networks”, *International Journal Robust and Nonlinear Control*, Vol 19, No 15 (October 2009):1673-1696.
21. T.H. Summers, M.R. Akella, M.J. Mears, “Coordinated standoff tracking of moving targets: Control laws and information architectures”, *AIAA Journal Guidance, Navigation and Control*, Vol 32, No 1 (January 2009):56-82.

CONFERENCE
PUBLICATIONS

Peer-Reviewed Conference Papers

1. K. Fathian, S. Safaoui, T.H. Summers, N. Gans, “Robust 3D Distributed Formation Control with Collision Avoidance and Application to Multirotor Aerial Vehicles”, *IEEE International Conference on Robotics and Automation*, submitted 2018.
2. Y. Guo, T.H. Summers, “A Performance and Stability Analysis of Low-inertia Power Grids with Stochastic System Inertia”, *American Control Conference*, submitted 2018.
3. T. Summers, M. Kamgarpour, “Performance guarantees for greedy maximization of non-submodular set functions in systems and control”, *arXiv:1712.04122*, manuscript, 2018.
4. K. Fathian, T.H. Summers, N. Gans, “Robust Distributed Formation Control of Agents With Higher-Order Dynamics”, *IEEE Conference on Decision and Control*, Miami, FL, December 2018.
5. T. Summers, “Distributionally robust sampling-based motion planning under uncertainty”, *IEEE/RSJ International Conference on Intelligent Robots & Systems*, Madrid, Spain, October 2018.

6. B. Gravell, T. Summers, “Concurrent goal assignment and collision-free trajectory generation for multiple aerial robots”, *IFAC Workshop on Networked and Autonomous Air and Space Systems*, Santa Fe, NM, June 2018.
7. K. Fathian, T.H. Summers, N. Gans, “Distributed Formation Control and Navigation of Fixed-wing UAVs at Constant Altitude”, *International Conference on Unmanned Aircraft Systems*, Dallas, TX, June 2018.
8. T.H. Summers, J. Ruths, “Performance bounds for optimal feedback control in networks”, to appear, *American Control Conference*, Milwaukee, WI, June 2018.
9. Y. Guo, K. Baker, E. Dall’Anese, Z. Hu, T.H. Summers, “Stochastic optimal power flow based on data-driven distributionally robust optimization”, to appear, *American Control Conference*, Milwaukee, WI, June 2018.
10. A. Taha, S. Nugroho, T.H. Summers, G. Gatsis, “Simultaneous sensor and actuator selection through output feedback control in dynamic networks”, *American Control Conference*, Milwaukee, WI, June 2018.
11. V. Renganathan, T.H. Summers, “Spoof resilient coordination for distributed multi-robot systems”, *International Symposium on Multi-Robot and Multi-Agent Systems*, Los Angeles, CA, December 2017.
12. T.H. Summers, C. Li, M. Kamgarpour, “Information structure design in team decision problems”, submitted, IFAC World Congress, Toulouse, France, 2017.
13. M. Kamgarpour, T.H. Summers, “Infinite dimensional linear programming approach to stochastic control”, submitted, IFAC World Congress, Toulouse, France, 2017.
14. K. Fathian, D. Rachinskii, T.H. Summers, M. Spong, N. Gans, “Distributed formation control under arbitrarily changing topology”, accepted, *American Control Conference*, Seattle, WA, 2017.
15. A. Taha, N. Gatsis, T.H. Summers, “Actuator selection for cyber-physical systems” accepted, *American Control Conference*, Seattle, WA, 2017.
16. E. Dall’Anese, T.H. Summers, K. Baker, “Optimal power flow for distribution systems under uncertain forecasts”, *IEEE Conference on Decision and Control*, Las Vegas, NV, 2016.
17. T. Summers, “Actuator placement in networks using optimal control performance metrics”, *IEEE Conference on Decision and Control*, Las Vegas, NV, 2016.
18. K. Fathian, D. Rachinskii, T.H. Summers, N. Gans, “Distributed control of cyclic formations with local relative position measurements”, *IEEE Conference on Decision and Control*, Las Vegas, NV, 2016.
19. K. Baker, E. Dall’Anese, T.H. Summers, “Distribution-agnostic stochastic optimal power flow for distribution grids”, *North American Power Symposium*, Denver, CO, USA
20. T.H. Summers, I. Shames, “Convex relaxations and Gramian rank constraints for sensor and actuator selection”, *IEEE Multiconference on Systems and Control*, Buenos Aires, Argentina, 2016.
21. M. Kamgarpour, T.H. Summers, “Stochastic control: A moment approach to sparse design”, *International Symposium on Mathematical Theory of Networks and Systems*, Minneapolis, MN, 2016.
22. A. Vinod, T.H. Summers, M. Oishi, “User-interface design for MIMO LTI human-automation systems through sensor placement”, *American Control Conference*, Boston, MA, USA, 2016.
23. I. Shames, F. Farokhi, T.H. Summers, R. Shekhar, “Conditions and strategies for the uniqueness of the solutions to cooperative localization and mapping problems using rigidity theory”, *IEEE Conference on Decision and Control*, Osaka, Japan, 2015.

24. M. Colombino, T.H. Summers, R. Smith, “Quadratic two-team games”, *IEEE Conference on Decision and Control*, Osaka, Japan, 2015.
25. I. Shames, F. Farokhi, T.H. Summers, “Security analysis of networked systems in the presence of impulsive attacks”, *Asian Control Conference*, Kota Kinablu, Malaysia, 2015.
26. A. Hauswirth, J. Warrington, T.H. Summers, J. Lygeros, A. Kettner, A. Brenzikofer, “Smart management of devices in active power distribution networks”, *PowerTech*, Eindhoven, The Netherlands, 2015.
27. T.H. Summers, I. Shames, J. Lygeros, F. Dörfler, “Topology design for optimal network coherence”, *European Control Conference*, Linz, Austria, 2015.
28. F. Cortesi, T.H. Summers, J. Lygeros, “Submodular energy related controllability metrics”, *IEEE Conference on Decision and Control*, Los Angeles, CA, USA, 2014.
29. T.H. Summers, J. Lygeros, “Optimal sensor and actuator placement in complex networks”, *IFAC World Congress*, Cape Town, South Africa, 2014.
30. T.H. Summers, J. Warrington, M. Morari, J. Lygeros, “Stochastic optimal power flow based on convex approximations of chance constraints”, *Power Systems Computation Conference*, Wroclaw, Poland, 2014.
31. I. Shames, T.H. Summers, “On the emergence of factions in dynamical networks”, *International Symposium on Mathematical Theory of Networks and Systems*, Groningen, The Netherlands, 2014.
32. S. Huck, M. Rueppel, T.H. Summers, J. Lygeros, “RCopterX: Experimental validation of a distributed leader follower MPC approach on a miniature helicopter tested”, *European Control Conference*, Strasbourg, France, 2014.
33. T.H. Summers, C. Yu, S. Dasgupta, B.D.O. Anderson, “Computational certificates for local instability of equilibria”, *IEEE Multiconference on Systems and Control*, Hyderabad, India, 2013.
34. A.N. Bishop, T.H. Summers, B.D.O. Anderson, “Stabilization of stiff formations with a mix of direction and distance constraints”, *IEEE Multiconference on Systems and Control*, Hyderabad, India, 2013.
35. T.H. Summers, N. Kariotoglou, M. Kamgarpour, S. Summers, J. Lygeros, “Approximate dynamic programming via sum of squares programming”, *European Control Conference*, Zürich, Switzerland, 2013.
36. N. Kariotoglou, S. Summers, T.H. Summers, M. Kamgarpour, J. Lygeros, “Approximate dynamic programming for stochastic reachability”, *European Control Conference*, Zürich, Switzerland, 2013.
37. K. Kunz, S.M. Huck, T.H. Summers, “Fast model predictive control of miniature helicopters”, *European Control Conference*, Zürich, Switzerland, 2013.
38. T.H. Summers, P.J. Goulart, “Performance bounds for constrained linear min-max control”, *European Control Conference*, Zürich, Switzerland, 2013.
39. T.H. Summers, I. Shames, “Active influence in dynamical models of structural balance in social networks”, *Interdisciplinary Workshop on Information and Decision in Social Networks*, Boston, MA, USA, 2012.
40. C. Conte, T.H. Summers, M.N. Zeilinger, C.N. Jones, M. Morari, “Computational aspects of distributed model predictive control”, *IEEE Conference on Decision and Control*, Maui, USA, 2012.
41. T.H. Summers, J. Lygeros, “Distributed model predictive consensus via the Alternating Direction Method of Multipliers”, *Allerton Conference on Communication, Computing, and Control*, Monticello, IL, USA, 2012.

42. A.N. Bishop, T.H. Summers, Brian D.O. Anderson, "Control of triangle formations with a mix of angle and distance constraints", *IEEE Multi-Conference on Systems and Control*, Dubrovnik, Croatia, 2012.
43. S. Dasgupta, C. Yu, B.D.O. Anderson, T.H. Summers, "Controlling rectangular formations", *Australian Control Conference*, Melbourne, Australia, 2011.
44. B.D.O. Anderson, C. Yu, S. Dasgupta, T.H. Summers, "Controlling four agent formations", *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Annecy, France, 2010.
45. T.H. Summers, C. Yu, B.D.O. Anderson, S. Dasgupta, "Control of coleader formations in the plane", *IEEE Conference on Decision and Control*, Shanghai, China, 2009.
46. T.H. Summers, C. Yu, B.D.O. Anderson, S. Dasgupta, "Control of leader-remote-follower formations in the plane", *European Control Conference*, Budapest, Hungary, 2009.
47. T.H. Summers, C. Yu, B.D.O. Anderson, "Robustness to agent loss in vehicle formations and sensor networks", *IEEE Conference on Decision and Control*, Cancun, Mexico, 2008.
48. T.H. Summers, M.R. Akella, M.J. Mears, "Coordinated standoff tracking of moving targets", *AIAA Guidance, Navigation, and Control Conference*, Honolulu, HI, USA, 2008.
49. T.H. Summers, C. Yu, B.D.O. Anderson, "Decentralized closing ranks in vehicle formations and sensor networks", *Mediterranean Conference on Control and Automation*, Ajaccio, France, 2008.
50. T.H. Summers, M.R. Akella, "A non-certainty equivalence approach to decentralized adaptive control", *IEEE Conference on System of Systems Engineering*, San Antonio, TX, 2007.

PROFESSIONAL
AND PUBLIC
LECTURES

Invited Talks

1. "Control topology design in complex dynamical networks", *University of Texas at Dallas*, Dallas, TX, USA. May 2018.
2. "Control topology design in complex dynamical networks", *University of California, San Diego*, San Diego, CA, USA. May 2018.
3. "Network topology design in complex dynamical networks", *United Technologies Research Center*, East Hartford, CT, USA. September 2017.
4. "Stochastic optimal power flow for transmission and distribution networks", *University of New Mexico*, Albuquerque, NM, USA, February 2017.
5. "Network topology design in complex dynamical networks", *University of Texas at Arlington*, Arlington, TX, USA, April 2016.
6. "Controllability and submodularity in complex dynamical networks", *Texas Systems Day at the University of Texas at Austin*, Austin, TX, USA, April 2016.
7. "Optimal power flow: Stochastic and convex relaxation variations", *University of Texas at San Antonio*, San Antonio, TX, USA, February 2016.
8. "Submodularity and controllability in complex dynamical networks", *NetSci 2015 Satellite Symposium*, Zaragoza, Spain, June 2015.
9. "Network topology design in complex dynamical networks", *Northeastern University*, Boston, MA, USA. April 2015.
10. "Network topology design in complex dynamical networks", *University of Texas at Dallas*, Richardson, TX, USA. March 2015.
11. "Optimal power flow: Stochastic and convex relaxation variations", *GE Global Research*, Niskayuna, NY, USA, March 2015.

12. “Network topology design in complex dynamical networks”, *The Ohio State University*, Columbus, OH, USA. March 2015.
13. “Network topology design in complex dynamical networks”, *University of New Mexico*, Albuquerque, NM, USA. March 2015.
14. “Optimal power flow: Stochastic and convex relaxation variations”, *Numerica Corporation*, Fort Collins, CO, USA, March 2015.
15. “Optimal power flow: Stochastic and convex relaxation variations”, *National Renewable Energy Laboratory*, Golden, CO, USA, March 2015.
16. “Control and optimization in complex dynamical networks”, *Eindhoven University of Technology*, Eindhoven, The Netherlands, January 2015.
17. “Network topology design in complex dynamical networks”, *Siemens Corporate Technology*, München, Germany, January 2015.
18. “Stochastic optimal power flow”, *Los Alamos National Laboratory*, Los Alamos, NM, USA, December 2014.
19. “Submodularity and controllability in complex dynamical networks”, *Lund University, LCCC Focus Period*, Lund, Sweden, October 2014.
20. “Control and optimization in complex networks of dynamical systems”, *The Australian National University*, Canberra, Australia, October 2013.
21. “Control and optimization in complex networks of dynamical systems”, *University of Melbourne*, Melbourne, Australia, October 2013.
22. “Control and optimization in complex networks”, *University of Groningen, Systems Theory Seminar*, Groningen, The Netherlands, February 2013.
23. “Active influence in dynamical models of structural balance in social networks”, *Interdisciplinary Workshop on Information and Decision in Social Networks, MIT*, Cambridge, MA, USA, November 2012.
24. “East African Control School”, *University of Nairobi*, Nairobi, Kenya, September 2012.
25. “East African Control School”, *Makerere University*, Kampala, Uganda, September 2012.
26. “East African Control School”, *Busitema University*, Busitema, Uganda, September 2012.
27. “East African Control School”, *Uganda Christian University*, Kampala, Uganda, September 2012.
28. “Approximate dynamic programming via sum of squares programming”, *Automatic Control Laboratory, KTH*, Stockholm, Sweden, June 2012.
29. “Cooperative shape and orientation control of autonomous vehicle formations”, *Automatic Control Laboratory, ETH Zürich*, Zürich, Switzerland, January 2011.
30. “Cooperative shape and orientation control of autonomous vehicle formations”, *Sandia National Laboratories*, Albuquerque, NM, USA, December 2010.
31. “Cooperative shape and orientation control of autonomous vehicle formations”, *University of California, Santa Barbara*, Santa Barbara, CA, December 2010.
32. “Rigid body attitude synchronization with unknown communication time delays”, *The Australian National University*, Canberra, Australia, August 2010.

TEACHING
EXPERIENCE

Instructor, University of Texas at Dallas

MECH 4310: Systems and Controls, Spring 2016, 2017, Fall 2017

MECH 6326: Optimal Control and Dynamic Programming, Fall 2016, Spring 2018

MECH 6v29: Convex Optimization in Systems and Control, Fall 2018

Teaching Assistant, ETH Zürich

Distributed Systems and Control, Spring 2015

Signals and Systems II (pilot course using interactive, personalized learning tools), Spring 2014

System Identification, Fall 2013

Robust Control and Convex Optimization, Spring 2012

Teaching Assistant, University of Texas at Austin

Control Systems, Linear Systems, Static Mechanics, Solid Mechanics, 2005-2010

STUDENT
SUPERVISION

University of Texas at Dallas:

PhD Students

1. **Yi Guo**, “Data-driven control and optimization in uncertain power networks,” Mechanical Engineering, University of Texas at Dallas, August 2016 - present.
2. **Venkatraman Renganathan**, “Resilient control and optimization of distributed multi-robot teams,” Mechanical Engineering, University of Texas at Dallas, August 2016 - present.
3. **Changyuan Li**, “Designing resilient strategies and information architectures for two-team stochastic dynamic games,” Electrical Engineering, University of Texas at Dallas, August 2016 - present.
4. **Karthik Ganapathy**, “Quantifying network controllability and observability using optimal control and estimation metrics”, Mechanical Engineering, University of Texas at Dallas, May 2017 - present.
5. **Benjamin Gravell**, “Integrating learning and control in networked multi-agent systems”, Mechanical Engineering, University of Texas at Dallas, August 2018 - present.

Undergraduate Students

1. **Sleiman Safaoui**, “Experimental platforms for distributed multi-robot systems”, Electrical Engineering, University of Texas at Dallas, January 2017 - present.
2. **Kevin Daniel**, “Experimental platforms for distributed multi-robot systems”, Mechanical Engineering, University of Texas at Dallas, May - August 2018.
3. **Illiana Reed, Andrew Fellers, Che Ho Chan, Miguel Salinas**, “Software framework for an autonomous driving platform”, Computer Science Senior Capstone Project, University of Texas at Dallas, January - May 2018.
4. **Hasan Ashqeen**, “Autonomous mobility on demand: A case study in Dallas-Fort Worth”, January - May 2017.
5. **Ryan Morton**, “Experimental platforms for distributed multi-robot systems”, Mechanical Engineering, University of Texas at Dallas, May - August 2017.
6. **Benjamin Gravell**, “Optimal Trajectory Assignment and Generation for Robot Swarms,” Mechanical Engineering, University of Texas at Dallas, August 2016 - May 2017.
7. **Bar David, Hector Rodriguez, Saad Ali, Tyler Gray**, “Multi-Robot Localization and Control in GPS-Denied Environments,” Mechanical and Electrical Engineering Senior Capstone Project, University of Texas at Dallas, August 2016 - present.

Doctoral Dissertation Committee Member

1. **Kaveh Fathian**, Electrical Engineering, University of Texas at Dallas, (Advisor: Prof. Nicholas Gans).
2. **Edgar Bolivar**, Mechanical Engineering, University of Texas at Dallas, (Advisor: Prof. Bobby Gregg).
3. **Farid Tajaddodianfar**, Mechanical Engineering, University of Texas at Dallas, (Advisor: Prof. Reza Moheimani).
4. **Niharika Challapalli**, Mechanical Engineering, University of Texas at Dallas, (Advisor: Prof. Mathukumalli Vidyasagar).
5. **Liuja Dong**, Mechanical Engineering, University of Texas at Dallas, (Advisor: Prof. Yaoyu Li).
6. **Ziheng Wang**, Mechanical Engineering, University of Texas at Dallas, (Advisor: Prof. Ann Majewicz-Fey).
7. **Jonathan Horn**, Mechanical Engineering, University of Texas at Dallas, (Advisor: Prof. Bobby Gregg).

ETH Zürich: Masters Students

1. Christoph Stäheli, “Stochastic optimal control through moments and positive polynomials”, July 2015
2. Baptiste Mottet, “Probabilistic basis of attraction for a juggling machine”, June 2015
3. Alina Giger, “System identification and optimal control of an autonomous helicopter”, February 2015
4. Adrian Hauswirth, “Smart management of controllable devices in power distribution networks”, January 2015
5. Christoph Stäheli, “Semidefinite programming for stochastic optimal control”, December 2014
6. Angela Botros, “Large-scale optimal power flow using convex relaxations and distributed optimization”, September 2014
7. Paul Beuchat, “Affine policies for integrating uncertain renewable energy in power networks”, April 2014
8. Raphael Schottenhaml, “Controllability, submodularity, and uncertainty in complex networks”, December 2013
9. Fabrizio Cortesi, “Energy-related controllability metrics in complex networks”, November 2013
10. Lukas Studer, “Approximate dynamic programming in portfolio optimization”, October 2013
11. Marvin Rueppel, “Distributed model predictive control on a multiple helicopter testbed”, September 2013
12. Amin Rezaeizadeh, “Model predictive control for bipedal robotic walking”, March 2013
13. Konstantin Kunz, “Fast model predictive control of miniature helicopters”, September 2012

SERVICE

Service to University/Department

- **Dynamic Systems and Control Standing Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2015 - Present.
- **Graduate Standing Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2017 - Present.
- **Computer Systems Standing Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2015 - 2017.
- **ME Undergraduate Curriculum Roadmap Ad Hoc Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2016 - Present.

Outreach

- **Faculty speaker**, UT Dallas Engineers Week Community Day
- **Regular Exhibitor**, Perot Museum of Nature and Science, Dallas, TX
- **Young Women in Science and Engineering (Young WISE)**: Faculty member for teams of four high school students. (September 2016 - May 2018)
- **East Africa Control School**: Delivered workshops to undergraduate students at universities in Uganda and Kenya as part of the IEEE Control Systems Society Outreach Program (September 2012)
- **Fulbright Alumni Ambassador**: Fulbright Program outreach representative for the Council for International Exchange of Scholars (2009 - present)

Professional Memberships

- **Member** Institute of Electrical and Electronics Engineers (IEEE)
- **Member** IEEE Control Systems Society
- **Member** IEEE Robotics & Automation Society
- **Member** IEEE Power & Energy Society

REVIEWS OF MANUSCRIPTS

- **Journals**: IEEE Transactions on Automatic Control, IEEE Transactions on Control of Network Systems, IEEE Transactions on Network Science and Engineering, IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid, Automatica, Systems and Control Letters, International Journal of Robust and Nonlinear Control, International Journal of Electric Power and Energy Systems, IET Renewable Power Generation, AIAA Journal of Guidance, Navigation, and Control
- **Conferences**: IEEE Conference on Decision and Control, American Control Conference, European Control Conference, IFAC World Congress, IEEE Multi-Conference on Systems and Control, International Symposium on Mathematical Theory of Networks and Systems, IEEE PowerTech, Power Systems Computation Conference, Allerton Conference on Communication, Computing, and Control, Australian Control Conference, IFAC Workshop on Distributed Estimations and Control in Networked Systems