

Javier Bórquez Berenguer

CONTACT	javier.borquez@usach.cl Av. Víctor Jara 3519 Office 302 Santiago, Chile
EDUCATION	University of Southern California PhD on Electrical Engineering 2021 - 2025 Ming Hsieh Department of Electrical and Computer Engineering. Universidad de Santiago de Chile Master on Electrical Engineering 2017 - 2018 Dpto. de Ingeniería Eléctrica. Universidad de Santiago de Chile Electrical Civil Engineer 2010 - 2015 Dpto. de Ingeniería Eléctrica.
ACADEMIC POSITIONS	Universidad de Santiago de Chile Assistant Professor 2025 - Present Dpto. de Ingeniería Eléctrica. Stanford University Visiting Scholar 2025 Department of Aeronautics & Astronautics. Universidad de Santiago de Chile Instructor Teacher 2016 - 2020 Dpto. de Ingeniería Eléctrica.
TEACHING EXPERIENCE	Universidad de Santiago de Chile Dpto. de Ingeniería Eléctrica. Linear Circuits I Linear Circuits II Renewable Energy Generation Electrotechnics Introduction to Electrical Engineering Industrial Electronics Laboratory
PUBLICATIONS	J. Borquez, L. Raus, Y. U. Ciftci and S. Bansal, DualGuard MPPI: Safe and Performant Optimal Control by Combining Sampling-Based MPC and Hamilton-Jacobi Reachability. IEEE Robotics and Automation Letters, 2025.

J. Borquez, K. Chakraborty, H. Wang, and S. Bansal, **On Safety and Liveness Filtering Using Hamilton-Jacobi Reachability Analysis**. IEEE Transactions on Robotics, 2024.

J. Borquez, S. Peng, Y. Chen, Q. Nguyen and S. Bansal, **Hamilton-Jacobi Reachability Analysis for Hybrid Systems with Controlled and Forced Transitions**. Robotics: Science and Systems XX, Delft, NL, 2024.

H. Wang, J. Borquez and S. Bansal, **Providing Safety Assurances for Systems With Unknown Dynamics**. IEEE Control Systems Letters, 2024.

J. Borquez, K. Nakamura and S. Bansal, **Parameter-Conditioned Reachable Sets for Updating Safety Assurances Online**. IEEE Int. Conference on Robotics and Automation (ICRA), London, United Kingdom, 2023.

J. Borquez, H. Chavez, K. A. Barbosa, M. Jamett, and R. Acuna, **A Simple Distribution Energy Tariff under the Penetration of DG**. Energies, 2020.

D. Verdugo, J. Borquez, K. A. Barbosa and F. Rojas, **Robust Voltage Regulation of a Stand Alone Uncertain Single-Stage Boost Inverter**. IEEE International Conference on Automation/XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA), Concepcion, 2018.

J. Borquez, M. Ferber and K. A. Barbosa, **Parametric uncertainty analysis of inverse linear electric circuit problems**. CHILEAN Conference on Electrical, Electronics Engineering, Information and Communication Technologies (CHILECON), Pucon, 2017.

AWARDS

Southern Denmark University, Denmark, Scholarship to the 2023 Elite Robotics and Entrepreneurship Summer School.

U. de Santiago, Chile, Best Engineer of the Promotion, Engineering Faculty Award 2015.

U. de Santiago, Chile, Best Electrical Engineer of the Promotion, Electrical Engineering Department Award 2015.

U. de Santiago, Chile, Best Admission Score to Electrical Engineering, Electrical Engineering Department Award 2010.

Antofagasta Minerals S.A. Funding Scholarship 2015-2016.