

# Ryan Matheu | Curriculum Vitae

University of Maryland – College Park  
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## Education

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### University of Maryland

*Pursuing PhD in Computer Engineering*

- Research Advisors: Prof. John S. Baras and Prof. Calin Belta
- Clark Doctoral Fellow

**College Park, MD**

*Aug. 2022 – Present*

### University of Maryland

*BS Physics & BS Mechanical Engineering with Honors*

**College Park, MD**

*Graduated Dec. 2021*

## Industry Experience

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### Lockheed Martin Advanced Technology Laboratories (ATL)

*A/AI Research Engineer Associate*

**Arlington, VA**

*Oct. 2025 – Present*

### University Research Foundation (URF)

*Research Engineer Intern*

**Greenbelt, MD**

*May 2021 – Aug. 2022*

## Research Experience

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### Institute for Systems Research (ISR)

*Graduate Research Assistant*

**College Park, MD**

*Sept. 2023 – Present*

## Publications

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### Peer-reviewed Conference Proceedings

- [C1] R. Matheu, A. G. Puranic, J. S. Baras, and C. Belta, “Bt2automata: Expressing behavior trees as automata for formal control synthesis,” in *Proceedings of the 28th ACM International Conference on Hybrid Systems: Computation and Control*, 2025, pp. 1–11.
- [C2] R. Matheu, A. G. Puranic, J. S. Baras, and C. Belta, “Omtbt: Online monitoring of temporal behavior trees with applications to closed-loop learning,” in *2025 European Control Conference (ECC)*, IEEE, 2025, pp. 2129–2135.

### Preprints

- [A1] R. Matheu, J. S. Baras, and C. Belta, “Ternary logic encodings of temporal behavior trees with application to control synthesis,” *arXiv preprint arXiv:2604.12092*, 2026, (Accepted CDC 2026).
- [A2] S. S. Damera, R. Matheu, A. G. Puranic, and J. S. Baras, “Polynomial surrogate training for differentiable ternary logic gate networks,” *arXiv preprint arXiv:2603.00302*, 2026, To appear in Proceedings of 3rd International Conference on Neuro-Symbolic Systems (NeuS).
- [A3] S. S. Damera, R. Matheu, A. G. Puranic, J. S. Baras, and C. Belta, “On the stability and realizability of recurrent polynomial surrogate ternary logic gate networks,” *arXiv preprint arXiv:2605.24649*, 2026, (Accepted CDC 2026).
- [A4] J. S. Baras, S. S. Damera, R. Matheu, C. Enwerem, and P. Kumar, “Iddmbse: Integrating data-driven and model-based systems engineering for trusted autonomous cyber-physical systems,” *arXiv preprint arXiv:2606.06727*, 2026, (Accepted IEEE ISSE 2026).

## Teaching Experience

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### Guest Lectures

*ENEE 467: Robotics Project Laboratory*

– Presented three lectures on programming robots with ROS2.

**College Park, MD**

*Sept. 2025*

### Teaching Assistant

*ENEE 660: Linear Systems Theory*

*ENEE 245: Digital Circuits and Systems*

*ENEE 303: Analog and Digital Electronics*

*ENEE 476: Renewable Energy*

**College Park, MD**

*Aug. – Dec. 2023*

*Aug. – Dec. 2023*

*Jan. – May. 2023*

*Aug. – Dec. 2022*

## Qualifications, Achievements, & Awards

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Clark Doctoral Fellows Mid-Career Award

*Apr. 2026*

NSF Student Travel Award

*CPS-IoT Week 2025*

EIT Certified, Mechanical

State of Maryland

– License No. 59754

*Aug. 2022*

## Academic and Professional Service

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Session Co-Chair, *Safety Critical Systems*, European Control Conference (ECC) *2025*

Refereed papers (reviewer) for the following journals and conferences:

– IEEE Transactions on Automatic Control (IEEE Trans. Autom. Control) *2026*

– Subreviewer/Delegated Reviewer:

★ IROS *2026*

## Technical Skills

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**Robotics:** ROS2, Mujoco, Isaac Sim

**Model Checking:** UPPAAL, Prism, nuXmv

**GPU Computing:** JAX, Warp

**Optimization:** Gurobi, CVXPY, Pyomo

**Provers/Solvers:** Lean, Z3

**APIs:** Agents SDK, LangGraph