Emanuele Bossi

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EDUCATION

Embry-Riddle Aeronautical University, Prescott, AZ   Expected: May 2026
Bachelor of Science in Data Science (GPA 4.00/4.00)
Bachelor of Science in Software Engineering (GPA 4.00/4.00)
Minor Field of Study: Mathematics
Undergraduate Research Scholar (University Official Recognition)
Men's Soccer Varsity Player (Vice-Captain)

SELECTED AWARDS

20 Twenties Award, Aviation Week Network, 2026
Outstanding Student Award, Computer Science Department, 2023

EXPERIENCES

Embry-Riddle Aeronautical University | Prescott, AZ (USA)
Undergraduate Research Assistant   August 2024 – Current
- Recipient of multiple *Undergraduate Research Awards* for a total of $18,900
- Conducted research projects in network science, machine learning, information theory and mathematical modelling under the supervision of Dr. AlMomani and Dr. Gretarsson
- Published and submitted multiple research articles in international venues and leading journals in the field

Teaching Assistant   August 2024 – Current
- Teaching Assistant for upper-division Machine Learning, Computer Science, and Physics courses, supporting instruction, grading, and exam preparation for 50+ students per term
- Led office hours and recitations, mentored students, and contributed to consistently high course evaluations that supported the selection of a course instructor for a Teacher of the Year Award

Purdue University | West Lafayette, IN (USA)
Undergraduate Research Assistant – Jain Research Laboratory   May 2025 – August 2025
- Recipient of the *Summer Undergraduate Research Fellowship* at Purdue University for a total of $10,000
- Developed a hybrid dynamic modeling and sensor-scheduling framework to predict driver reliance in automated driving, integrating mathematical modeling, machine learning, online adaptation, and sensor scheduling to improve prediction accuracy by 10% while reducing subjective self-reports by over 65% relative to prior approaches in the literature
- Submitted a research article to the IFAC World Congress, the leading international conference in control, systems, and automation

True Course Simulations | Prescott, AZ (USA)
Data Scientist Intern   May 2024 – August 2024
- Developed data-driven analytics and predictive models for pilot training simulations, enabling data-informed decisions, reducing data retrieval time by 50%, and increasing program completion rates by 35%.

Jointek Srl | Somma Lombardo, VA (Italy)
Data Scientist Intern   May 2023 - August 2023
- Built end-to-end data pipelines and business analytics solutions that improved data retrieval efficiency by 40% and enhanced procurement efficiency by 20%

PUBLICATIONS

- **Bossi, E.**, AlMomani, R. (2026). Entropic Framework for Complex Network Structure Recovery. (In preparation)
- **Bossi, E.**, Diggans, C. T., AlMomani, R. (2025). Boltzmann-Shannon Index: A Geometric-Aware Measure of Clustering Balance. (Pre-Print Available; submitted to APL Machine Learning)
- **Bossi, E.**, Jeevanandam S., Jain, N. (2025). A Sensor-Scheduling Approach to Predict Human Reliance on Automation During Automated Driving. (Submitted to 2026 IFAC World Congress)
- **Bossi, E.**, AlMomani, R. (2025). Uncovering Direct Influence Networks of Takeoff Weight: Network Science and Information Theoretic Approach. In 2026 AIAA Science & Technology Forum. (Accepted)
- **Bossi, E.**, Ahmed, F. (2025). Enhancing Sentiment Analysis with Feature Extraction and Dimensionality Reduction in Traditional Machine Learning Models. In Intelligent Systems Conference (pp. 166-183). Cham: Springer Nature Switzerland.