

Vladislav Snytko

Curriculum Vitae

Maastricht, The Netherlands

+31 (06) 23 72 28 97

vvs.snytko@gmail.com

vladsnytko.com

Education

2023–Present **B.Sc. in Data Science and Artificial Intelligence**, *Maastricht University*, Maastricht, Expected Graduation: June 2026
GPA: 8.04/10.0

Research Experience

- Sep 2025–Present **Group Project on AI and Robots for Education**, *Maastricht University*, Maastricht
- Supervisor: Rico Möckel
 - Semester-long research project on detecting and analyzing communication strategies used by students when working with educational robots (EDMOs).
- Jun 2025–Aug 2025 **Summer Undergraduate Research Fellow**, *California Institute of Technology*, Pasadena
- Supervisor: George Stepaniants
 - Researched a novel signature-based system identification and prediction method for controlled differential equations.
 - Implemented a linear regression approach to estimate coefficient matrices required for predicting system dynamics.
 - Trained a feedforward neural network to infer the coefficient matrix from initial conditions, later applying it to transformed control time series for system prediction.
 - Validated the approach on two dynamical systems, including the chaotic Duffing oscillator, demonstrating its potential for developing new control techniques.
 - Research report: "A Signature-Based Approach to System Identification and Prediction of Controlled Dynamical Systems" ([clickable link](#)).
- Sep 2024–Jun 2025 **Understanding Chaotic Dynamics Using Linear Tools**, *Maastricht University*, Maastricht
- Supervisors: Otti D'Huys, Philippe Dreesen
 - Conducted a year-long investigation of the Hankel Alternative View of Koopman (HAVOK) analysis.
 - Developed a technique for bounding the truncation rank, an internal HAVOK parameter.
 - Proposed a method to reduce the dataset size required for accurate HAVOK analysis.
 - Explored rare-event prediction through the dynamics of SVD coordinates, obtaining promising results.
 - Wrote technical report: "Enhancing HAVOK: Truncation Bounds, Data Reduction, and Rare Event Prediction" ([clickable link](#)).

Awards and Honors

2025 Summer Undergraduate Research Fellowship (SURF)

Technical and Research Skills

Programming Python, JAX, Java, MATLAB

Machine Learning Feedforward neural networks, regression models, data preprocessing pipelines

Mathematical Tools Dynamical systems modeling, system identification, SVD analysis, HAVOK

Research Chaos and rare-event prediction, technical writing, literature review, simulation and validation

Other LaTeX, Git