

YOSHINARI TAKAYAMA

Born in Japan, Nov 1998,
Currently at Laboratory of signals and systems (L2S), University of Paris Saclay, CentraleSupélec
Website, Github, Google Scholar, LinkedIn,

EDUCATION

University Paris Saclay, CentraleSupélec, France

2023.5 -

PhD at Laboratory of Signals and Systems (L2S)
Advisers: Alessio Iovine, Adnane Saoud

Kyoto University, Japan

2021.4 - 2023.3

M.S. in Informatics (Computer Science)
Lab: Integrated Dynamical Systems, Adviser: Toshiyuki Ohtsuka

B.S. in Informatics (Computer Science)

2017.4 - 2021.3

RESEARCH EXPERIENCE

Bernoulli Institute for Mathematics, Computer Science and Artificial Intelligence, Netherlands

2025.3 - 2025.6

Visiting Researcher. Adviser: Bart Besselink

UM6P College of Computing, Morocco

2024.6 - 2024.7

Visiting Researcher. Adviser: Adnane Saoud

OTHER EXPERIENCE

Rist Inc., a subsidiary of Kyocera (AI Engineer Intern)

2019.9 - 2021.2

- Worked on two image-processing AI projects both independently and with a team. i) Developed deep learning models for anomaly detection of alumina substrates using Variational Auto Encoder (VAE). Configured the AI model to train from data stored on Google Cloud and ii) Developed a CycleGAN AI model for Sim2real.

Cultural Association of Stanford Kyoto (Kyoto University Leader)

2017.4 - 2021.3

- Received an annual budget with Doshisha's Stanford Japan Center to provide opportunities for Stanford students to experience Japanese culture.

PUBLICATIONS

Peer-reviewed Journals

- 2023** | Yoshinari Takayama, Kazumune Hashimoto, and Toshiyuki Ohtsuka, "STLCCP: An Efficient Convex Optimization-based Framework for Signal Temporal Logic Specifications". In , IEEE Transaction on Automatic Control (full-paper of 16 pages) .

Peer-reviewed Conference Proceedings

- 2024** | Yoshinari Takayama, Adnane Saoud, Alessio Iovine, "Iterative Optimization-based Control of a Class of Mixed Logical Dynamical Systems with STL Specifications: A Case Study on Micro-grids". In *8th IFAC Conference on Nonlinear Model Predictive Control (NMPC)*, 2024 . Japan

- 2024** | Yoshinari Takayama, Adnane Saoud, Alessio Iovine, “Power management via STL specifications of a DC microgrid integrating renewables and storage devices: a smart railway station case study”. In *12th IFAC Symposium on Control of Power & Energy Systems (CPES)*, 2024 . Morocco
- 2023** | Yoshinari Takayama, Kazumune Hashimoto, and Toshiyuki Ohtsuka, “Signal Temporal Logic Meets Convex-Concave Programming: A Structure-Exploiting SQP Algorithm for STL Specifications”. In *IEEE Conference on Decision and Control (CDC)*, 2023 . Singapore
- 2022** | Yoshinari Takayama, Kenta Hoshino, and Toshiyuki Ohtsuka, “Algebraic Approach to Global Finite-Time Stabilization of Multi-Input Polynomial Systems”. In *IEEE Conference on Decision and Control (CDC)*, 2022 . Mexico

Other Talks

- 2024** | Predictive Control for Congestion Management in Sub-Transmission Areas. a Parameter-Varying Model-Based Approach at IFAC Symposium on Control of Power & Energy Systems (CPES) 2024
- 2024** | Power management via STL specifications of DC microgrids at UM6P College of Computing
- 2023** | Structure-Exploiting Optimization for Control with Signal Temporal Logic Specifications, 3rd workshop of the RTE Chair at CentraleSupélec, France
- 2022** | Yoshinari Takayama, Kenta Hoshino, and Toshiyuki Ohtsuka, “Design of Finite-time Stabilizing Feedback Laws for Polynomial Systems Using Syzygy Modules”. In *Proceedings of the Annual Conference of the Institute of Systems, Control and Information Engineers (SCI)*, 2022 . Japan

AWARDS

2023 Watanabe Foundation Fellowship
 2023 Repayment Exemption of Student Loan about for Students with Excellent Grades
 2023 SICE International Young Authors Award (SIYA CDC’22) with \$1,000
 2023 IEEE CSS Student Travel Award (CDC’23)
 2023 Young Author’s Award and Student Presentation Award, SCI

LANGUAGE SKILLS

Japanese (Native), English (Fluent), French (Intermediate)