YU YEH

Université Paris-Saclay · CentraleSupélec · Laboratory of Signals and Systems (L2S)
3 rue Joliot-Curie, 91190 Gif-sur-Yvette, France

Ph.D. student specializing in semantic communication and the co-design of communication and control systems for tactile internet applications. I have a strong foundation in control theory, signal processing, and optimization, with experience spanning both algorithmic design and real-time system implementation. My research aims to advance low-latency, intelligent communication systems through data-driven and model-based approaches.

Keywords: Autonomous Control · Information Processing · Optimization · Deep Learning

EDUCATION

CentraleSupélec, University of Paris-Saclay, CNRS Oct. 2023 – Present
Ph.D. Researcher, Laboratory of Signals and Systems (L2S) *Gif-sur-Yvette, France*

· TOAST project (Touch-enable Tactile Internet Training Network and Open Source) under Marie Skłodowska-Curie grant agreement No. 101073465.
· Conducting research on the co-design of communication and control systems for Tactile Internet.

Institut Polytechnique de Paris Sep. 2020 - Aug. 2021
Dual-joint M.S. in MICAS (Machine Learning, Communications, and Security) *Palaiseau, France*

· Focused on efficient information processing, transmission, storage, and security.
· Final grade: 15.1/20

National Yang Ming Chiao Tung University Sep. 2018 - Aug. 2021
M.S. in Electrical and Control Engineering *Hsinchu, Taiwan*

· Thesis: Path following algorithm of an autonomous vehicle.
· Final grade: 91.78/100

National Chiao Tung University Sep. 2014 - Aug. 2018
B.S. in Electrical and Computer Engineering *Hsinchu, Taiwan*

· Final grade: 84.63/100

PUBLICATIONS

1. Yu Yeh, Vineeth S. Varma, and Salah. E. Elayoubi. Aoi-based switching control for safe haptic teleoperation over a wireless network. In *2024 IEEE 63rd Conference on Decision and Control (CDC)*, pages 7644–7649, 2024
2. Yu Yeh, Nelson Cisneros, Yongxin Wu, Kanty Rabenorosoa, and Yann Le Gorrec. Modeling and position control of the hasel actuator via port-hamiltonian approach. *IEEE Robotics and Automation Letters*, 7(3):7100–7107, 2022

VISITING SCHOLAR

TOAST's Secondment in CoCoA May 2025 - Present
Department of Electrical and Computer Engineering, Aarhus University *Aarhus, Denmark*

· Applied deep reinforcement learning (DRL) to optimize Grant-Free resource allocation in URLLC scenarios.

· Developed a policy to prioritize users with higher expected traffic in future transmission windows.

TOAST's Secondment in SIRSLab Oct. 2024 - Dec. 2024
Università degli Studi di Siena *Siena, Italy*

· Developed a VR-based haptic teleoperation application using Unity and WEART's glove.
· Collected and utilized visuo-haptic datasets to build a context-aware traffic predictor (submitted to European Wireless 2025).

SOFTWARE DEVELOPMENT

Predictive Resource Reservation Jun. 2024 - Present

· Implemented a context-aware traffic predictor for visuo-haptic experiment data.
· Designed a mixed-timescale resource reservation algorithm for radio resource scheduling.

PROFESSIONAL EXPERIENCE

Realtek Oct. 2021 - Sep. 2023
Algorithm Engineer *Hsinchu, Taiwan*

· Developed and deployed an ANC algorithm using IIR filters, achieving up to 20 dB noise attenuation.
· Established standardized test procedures for evaluating commercial ANC and hearing aid devices.

FEMTO-ST May 2021 - Jun. 2021
Research Intern *Besançon, France*

· Modeled and controlled HASEL actuators using the port-Hamiltonian framework.
· Designed an IDA-PBC controller with integral action for robust position tracking.

ITRI (Industrial Technology Research Institute) Dec. 2018 - Dec. 2019
Intern (Part-time) *Hsinchu, Taiwan*

· Built a VIO system using Arduino (camera, IMU) and ROS-based libraries (Kalibr, Maplab).
· Project link: `https://hackmd.io/@PFABrcAkRWSshatDzBNr9w/rJvgZ91rE`

CONFERENCE PRESENTATIONS

2024 IEEE Conference on Decision and Control (CDC) Dec. 2024
Paper Presentation *Milan, Italy*

· Presented paper in *Networked Control Systems IV*

2024 IEEE Haptic Symposium Apr. 2024
Poster Session *Long Beach, CA, USA*

· Presented work-in-progress poster on haptic rendering and tactile interaction.

TEACHING EXPERIENCE

Microprocessor System Lab Oct. 2021 - Sep. 2023
Teaching Assistant *NCTU, Taiwan*

· Supervised lab sessions on 8051 microcontroller and assembly language programming.

SKILLS

Languages	Mandarin (Native), English (Upper-intermediate), French (Elementary)
Programming	Python, MATLAB, C/C++, LaTeX, ROS
Libraries/Tools:	PyTorch, Git, Simulink